

NATIONAL ELECTRAGIST

FORMERLY ELECTRICAL CONTRACTOR-DEALER

WITH RADIO SERVICE SUPPLEMENT

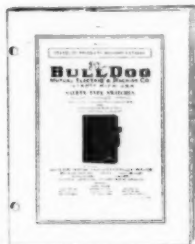
Vol. 22, No. 6

Official Journal of ASSOCIATION OF ELECTRAGISTS—International

APRIL, 1923



You cannot get the "Bull Dog" from every jobber. But you can get them from the best jobbers in your city.



A catalogue easy to use—Write for it.

The BULL DOG *looks well in* *your Estimate*

You can be sure of your customers' approval when your estimate includes the "Bull Dog" Safety Switch. The "Bull Dog" embodies the 10 essential features for safety and it bears Underwriters' Classification "A". Those whose requirements are the most exacting accept the "Bull Dog" as standard safety switch equipment.

Your "Bull Dog" profits are assured. The "Bull Dog" Safety Switch policy, limiting the number of jobbers of "Bull Dog" Safety Switches, eliminates unfair competition and insures the contractor his legitimate profit.

You can look back on every "Bull Dog" installation with pride, knowing that you have given your customer dependable safety switch operation and complete protection against the accidents of ordinary switches.

When you make your next estimate put "Bull Dog" on the job. It means safety for your customer and profits for you.

1. All parts are standardized.
2. Strong, rugged construction.
3. Interlocks.
4. Positive Quick Make and Quick Break.
5. Many well placed knockouts.
6. Removable and interchangeable end plates.
7. Roomy cabinet, fine appearance.
8. Operation does not depend on screws or springs. All parts are keyed together.
9. Reversible blades—unit blade construction.
10. Type "A" switch parts and Underwriters' Classification "A".

BULL DOG
MUTUAL ELECTRIC & MACHINE CO.
DETROIT MICH. U.S.A.



Faraday Bank Protection Systems



THE "HOLD-UP"—THE ALARM

(Photograph showing Faraday Bank Tellers' Foot Rail Contactor Model No. 760, in Actual Operation)

FARADAY BANK PROTECTION SYSTEMS are made for both Day Hold-Up and Combination Day Hold-Up and Night Burglary Protection in two (2) types—Electrically Supervised Closed-Circuit and Open-Circuit Non-Supervised—for operation on 110 Volt D. C. Lighting Circuits, 110 Volt A. C. Lighting Circuits or Battery Circuits.

The apparatus has been especially designed and manufactured for Bank-Protection work and will fill requirements of the largest financial institution, or, at minimum expense, the needs of the smallest bank or trust company in a small town; these systems are also recommended and are coming into very general use for the jewelry trade and other lines of business where valuable merchandise is handled.

Write for our  Bank Protection Bulletin No. 33-A.

MANUFACTURED BY

STANLEY & PATTERSON, Inc.

GENERAL OFFICES AND FACTORY
WEST & HUBERT STS., NEW YORK, U. S. A.

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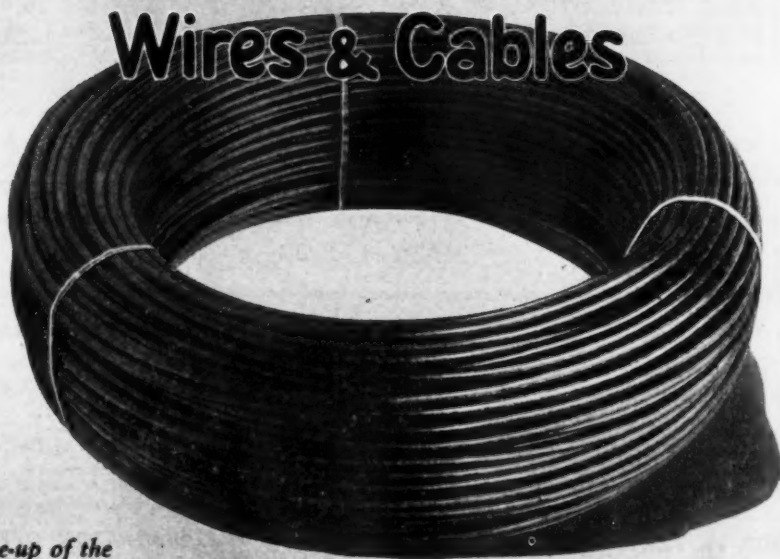
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Parke & Jaques
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"U.S." Paracore

Wires & Cables



A close-up of the insulation of "U. S." PARACORE



The excellent rubber compound possesses a stretch and tensile strength that is much more than code requires.



The braid is a close, tight weave that is thoroughly saturated in every fibre with a special water-proofing material.



The finish is a fine polished surface that will withstand the deteriorating effects of heat, cold and dampness and facilitates fishing.

The Importance of Insulation

One of the reasons for the outstanding quality of "U. S." PARACORE Wires and Cables can be summed up in two words —good insulation.

The efficiency of any wire is in direct proportion to the quality of its insulation. The better the insulation the better the wire is a fact that all buyers of wire recognize.

Such careful attention has been paid to the insulation of "U. S." PARACORE that today it is of a quality that is approached by but few manufacturers.

Use "U. S." PARACORE for work that requires wire of the *better* kind.

United States Rubber Company



NATIONAL ELECTRAGIST

FORMERLY ELECTRICAL CONTRACTOR-DEALER

(Trade Mark)

The Official Journal Published Monthly by the Association of
Electragists—International

FARQUSON JOHNSON
Editor and General Manager

Radio Service Supplement Last Section

JAY S. TUTHILL
News Editor

Volume 22

MARCH, 1923

Number 5

TO OUR READERS

All matter for publication must be in the hands of the Editor by the 10th of the month preceding publication.

All changes in our mailing list should be received by us two weeks prior to date of publication of the issue with which the change is to take effect.

TO OUR ADVERTISERS

Changes in advertisements and all advertising copy should reach our office not later than the TENTH OF THE MONTH previous to the date of issue.

SUBSCRIPTION RATES

One Year, Domestic.....\$2.00
Foreign Subscriptions, including Canada, per year.....\$2.50
Single Copies.....20 cents

Copyright, 1922, by Association of Electragists—International.

Entered as second-class matter September 1, 1919, at the Post Office at Utica, New York, under the act of March 3, 1879.

PUBLICATION OFFICE:

100 Liberty Street, Utica, N. Y.

Editorial and Business Office:

15 West 37th Street, New York City

Table of Contents and Advertising Index Next to Last Page Preceding Radio Service Supplement

**10¢
plus
5
minutes**

JOBBER'S

OVER 250 Jobbers are now selling Kruse Switch Box Supporting Strips and Lath Holders. *Why?* Because a large number of Contractors and Dealers have become wise to the fact that they can save a lot of time and money by their use, and they are taking advantage of it.

DEALERS

IF you are not using them you are giving your competitor an undue advantage of you, as he is doing better work and making more money on each job.

Sales are running around 100,000 sets per month. This means the contractors are making an extra profit of \$50,000 per month by the use of this great time and labor saving invention. Are You getting Your part of this?

Send \$1 for which 12 Sets will be delivered to you by parcel post.

MIDWEST METAL PRODUCTS CO.
MUNCIE, INDIANA

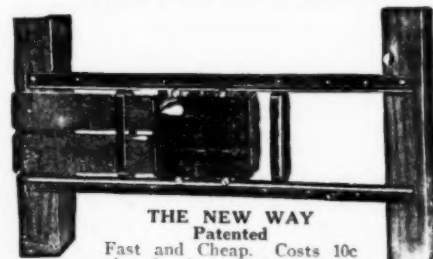
HOW WOULD YOU FASTEN END OF
LATH NEXT TO BOX ON THIS JOB?



THE OLD WAY

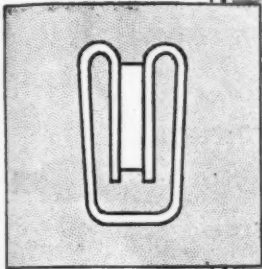
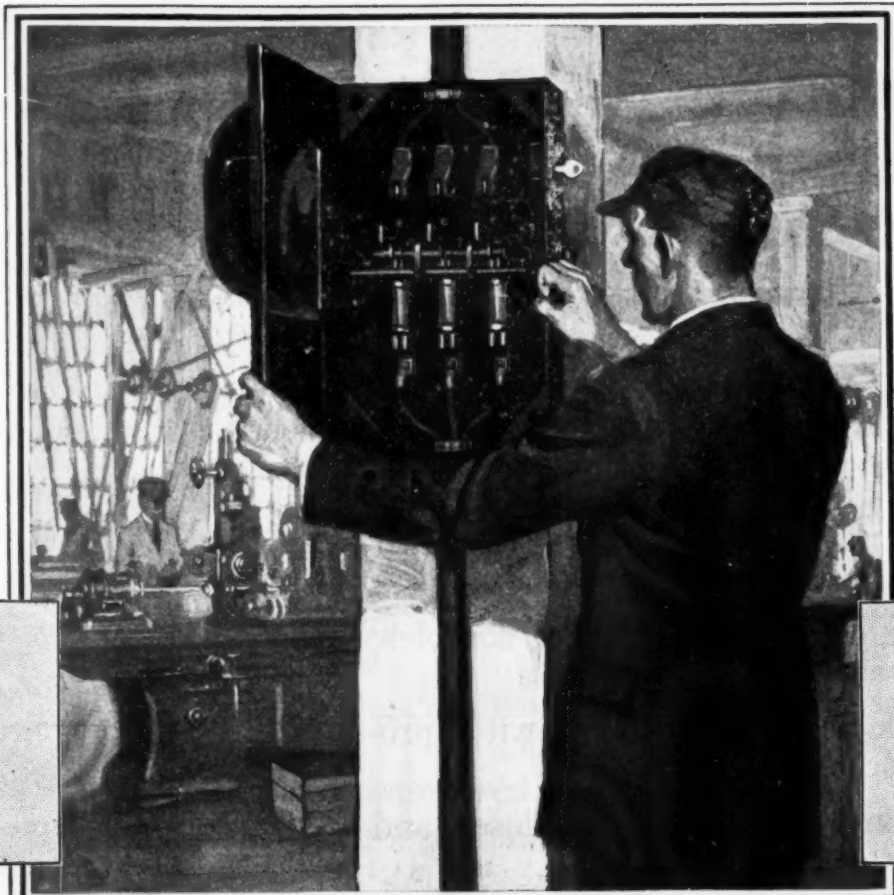
Slow and Expensive. Costs
50c to 75c to install box.

NOTICE THE LATH HOLDERS

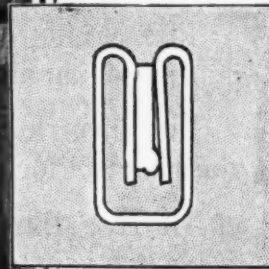


THE NEW WAY

Patented
Fast and Cheap. Costs 10c
plus 5 minutes' time to in-
stall box.



A formed jaw of quarter-hard drawn spring copper. Conforms to any shape of blade.



Positive contact with blistered or oversize blades. Readily re-aligned at any spring action.

Square D Multi-Spring Jaw

3 Points of Spring Action Insure Perfect Contact Under All Conditions

The superiority of the Square D Multi-Spring Jaw, and the reason for its use in the new 80000 Series switch, is pointed out by Prof. R. Edler in his authoritative book "Switches and Switch Gear."

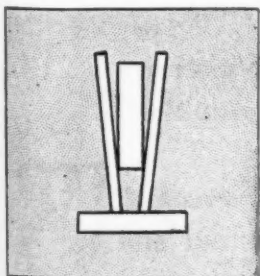
He says, "The form of spring contact which was formerly much used was constructed by milling out a slot in the contact block. This method had, however, the disadvantage that the smallest inaccuracies in workmanship resulted in the production of a very poor contact. The design consisting of two springs soldered in a block of brass or copper is not much better. An excellent contact, however, is obtained by the use of a jaw which is made of spring sheet copper, gripped and held by screws on the contact block." * * * The

"excellent contact" jaw referred to is the Square D Multi-Spring Jaw, except that strip copper is used instead of sheet stock.

Exclusive Feature of Inspection

In addition to having an insulated steel crossbar and all current carrying parts mounted on individual bases of molded insulating material, the 80000 Series has patented cover control with these features: The cover cannot be opened when the switch is on; the switch cannot be closed when the cover is open; and use of the Square D key permits authorized persons to inspect the switch during operation—to open the cover when the switch is on and operate the switch when the cover is open.

For literature and complete details of this newest Square D product embodying for the first time all the features ever demanded in a safety switch, communicate with our nearest office.



An oversized blade in a milled jaw. The slight contact produces heat at the bottom of the jaw where the spring action is destroyed and the jaw ruined.

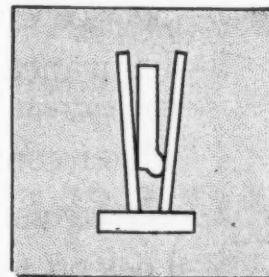
SQUARE D COMPANY, DETROIT, U. S. A.

(25)

FACTORIES AT:
DETROIT, MICH. PERU, IND. WALKERVILLE, ONT.

BRANCH OFFICES

Boston	Buffalo	Chicago	New York	Pittsburgh
St. Louis	Toronto	Philadelphia	Cincinnati	Milwaukee
Montreal	Atlanta	Cleveland	San Francisco	Winnipeg
				Vancouver



Showing how a blistered blade in the milled jaw gives insufficient contact. This causes overheating and ruins both blade and jaw.

SQUARE D SAFETY SWITCH



STANDARDIZED SERVICE SYSTEM

The pioneer standardized devices

What it is

THE Noark Service System is a standardized line of service installation devices.

The Noark Meterserv Switch is a complete unit providing all meter-service essentials.

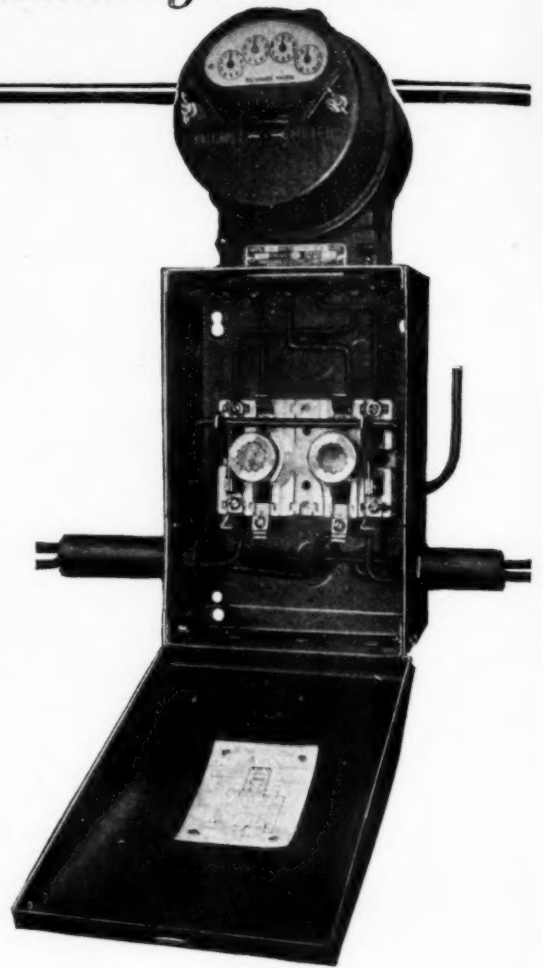
The Noark Service Entrance Switch provides control for the entire supply.

All live parts are entirely enclosed and the switch is externally operable.

Standardized fittings provide for any meter and installation arrangement.

The enclosed standardized cabinet (for all single-phase switches—in each ampere class) is of the same size for two-wire or three-wire devices.

Meter protecting end-walls, adapters, and other accessories are interchangeable in the Noark and other standardized devices.



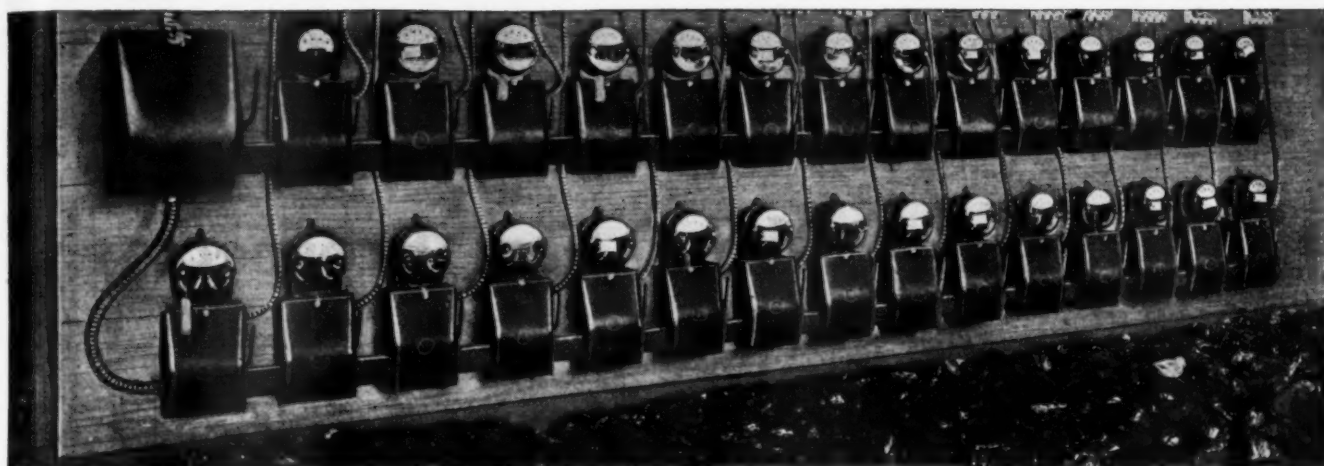
The NOARK Meterserv Switch Provides—

- 1—Externally operated Safety Service Switch.
- 2—Service Cutout.
- 3—Insurance against tampering and current theft.
- 4—Meter connection block.
- 5—Meter testing device.
- 6—Lock-off for service suspension.

This complete combination in a single device is made possible by the original Noark principle, whereby:

The switch functions as a service switch and cutout and also in itself for meter testing.

The enclosing cabinet serves to protect the switch and cutout and also the meter.



What it does

SAFEGUARDS the consumer by providing an externally operated service switch.

Eliminates fire hazard by enclosure of fuses and circuit controlling members.

Prevents tampering and unmetered current losses.

Reduces service investment and maintenance costs by providing standardized equipment.

Simplifies, expedites and insures safe meter testing without disturbing service and meter connections and without interruption of the consumer's service.

Permits locking the service "off" without removing meter or disturbing connections.

Simplifies maintenance because only one kind of accessories, such as meter protecting end-walls and adapters, are needed for interchangeable use in Noark and other standardized devices.

CENTRAL STATIONS

benefit because—

Personal and fire hazards are eliminated.

Customers' complaints are reduced.

Unmetered current losses are prevented.

Provision for safe, simple, expeditious meter testing economizes in meter maintenance.

CONSUMERS

benefit because—

Fire and accident hazards are eliminated.

There are no service interruptions due to testing or repairs.

The service installation is compact and good-looking and provides safe control for his electric supply.

CONTRACTORS

benefit because—

Simplified standardized construction with few parts, and simple wiring arrangements, reduces installation expense.

The excellent appearance and performance of the Noark Service System job reacts to the good of the contractor's reputation.

The Johns-Pratt Company

Hartford, Conn., U.S.A.



NEW YORK
41 East 42nd Street
ST. LOUIS
Boatmen's Bank Bldg.

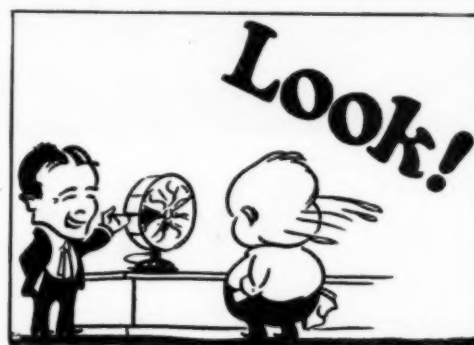
BOSTON (9)
161 Summer Street
CLEVELAND
Engineers' Bldg.

CHICAGO
35 So. Desplaines St.
PITTSBURGH
Bessemer Bldg.

SAN FRANCISCO
Call Building
PHILADELPHIA
Franklin Trust Bldg.



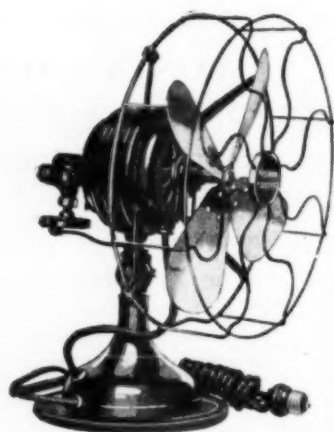
To Make Your Fan Prospects



and—



Hook up with *Western Electric* FANS



This is the Western Electric Fan, backed by a manufacturer with 54 years of electrical experience.

Your copy of the 1923 Western Electric Fan Sales Manual is ready. It tells about the new eight color Window Display, the new Envelope Insert, Mailing Folder, Lantern Slides and Newspaper Ads. Built around an idea that instantly interests everybody—Radio—the Window Display comes to you ready to start work. You'll find the new Western Electric Fans responsive to this good merchandising help, too. This year's oscillating fans have an improved mechanism that simplifies adjustment and makes for smoother and quieter action. Get your copy of the new Fan Sales Manual from our nearest distributing house.

Western Electric Company
INCORPORATED
Offices in All Principal Cities

Western Electric



SHALLOW TUMBLER SWITCH

*What puts this Switch
in the
Shallow
Partition?*



**Not mere shallowness.
Something deeper than that.**

Perhaps, generally speaking, the name Hart & Hegeman puts it there. The feeling that the H & H mechanism is as preferable in a 1-inch switch as in a deeper switch.

The Shallow Tumbler hardly is offered as "something new" in The Line of Least Resistance. The trade knows its makers were pioneers in shallow switch construction. As far back as 1917, the H & H Shallow Tumbler may be remembered—"old 3721"—the first shallow switch on the market. But offered only in single-pole and three-way types.

So well liked was this switch that the development of a complete line followed. And now Shallow Tumbler No. 8601 (with specially adapted mechanism) includes single-pole, double-pole, three-way and four-way types.

*To Guide You in Getting Number 8601
—in the types you may need directly*

Just off the press is an informative, buying-guide folder for all of our friends who install, sell or specify switches. Besides containing the last word on tumbler types, it carries prices and catalogue data you'll want for immediate use. A word will bring you a copy.

THE HART & HEGEMAN MFG. CO. HARTFORD, CONN.

Everything spick-and-span but the flush plates!



EVERY four or five years the average house gets redecorated. New paper, new paint, newly finished floors, everything spick and span.

Everything but the flush plates!

There the old flush plates are, scratched and soiled, like a calico patch on a satin gown.

Get acquainted with the painters, paperhangers and interior decorators. When they get jobs call on their customers and sell them new flush plates.

Bryant Flush Plates are made in all styles for all standard wiring devices. They can be furnished to match any decorative scheme.

Are you familiar with Bryant Flush Plates? They are beautifully finished and wear unusually well. They are worthy of installation in the most sumptuous home and they cost no more than any other good plates.

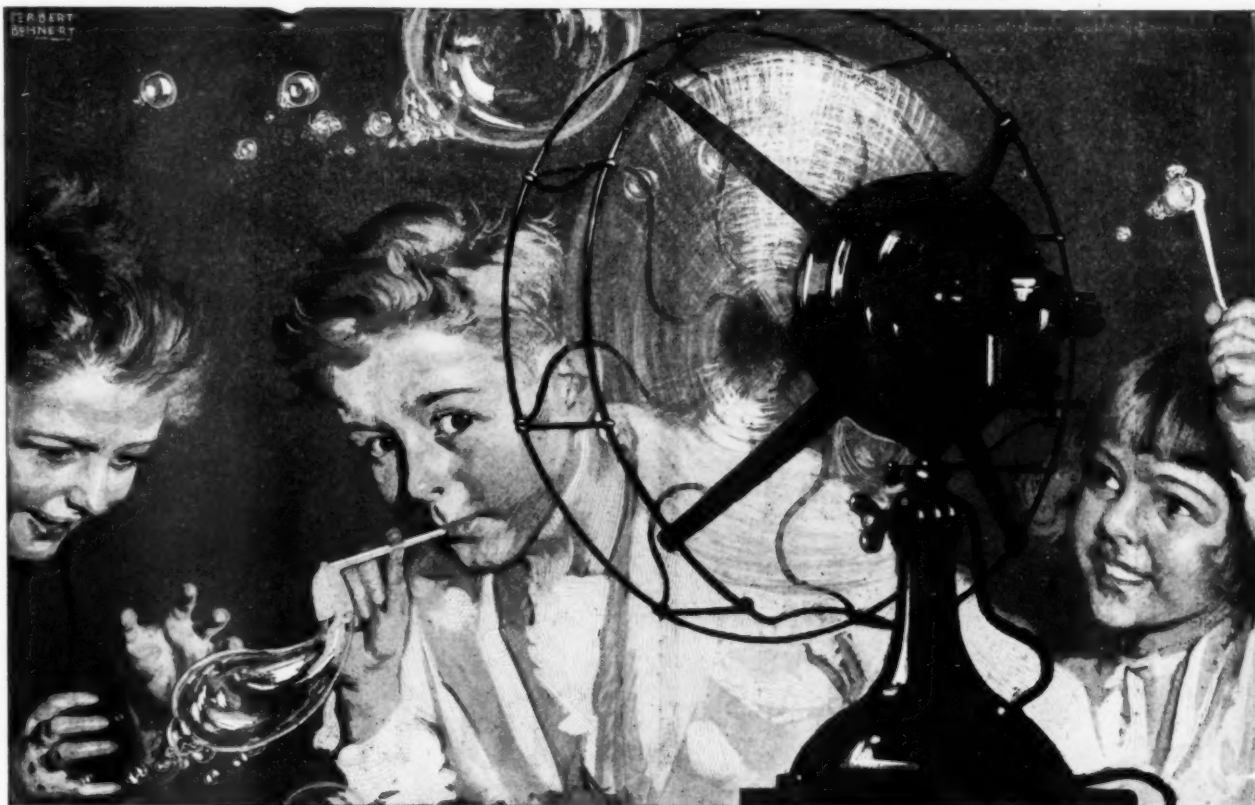
Your jobber probably stocks them. Order from him.

THE BRYANT ELECTRIC COMPANY BRIDGEPORT, CONNECTICUT

NEW YORK
342 Madison Ave.

CHICAGO
844 West Adams St.

SAN FRANCISCO
149 New Montgomery St.



WHEN you sell an R & M Fan you have gained your customer's lasting good-will. The attractive appearance, light weight, absolute dependability and almost silent operation of an R & M Fan outweighs many times any saving which the customer might have made by purchasing a fan of mediocre manufacture.

The dealer, whose business is being builded for permanence, knows that losing an occasional sale for price reasons is much better than to lose even one customer's good-will by selling him an article that may prove a disappointment in service. Therein lies the reason why large numbers of jobbers and dealers who have prospered in business during the quarter century the R & M Fan has been sold, have been specializing on the R & M line for this entire period.

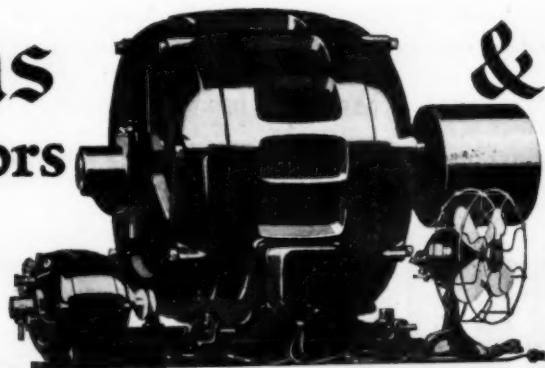
The R & M catalogue with complete information on the line for 1923 is now being distributed. Request Fan catalogue 1203 if you haven't received yours.

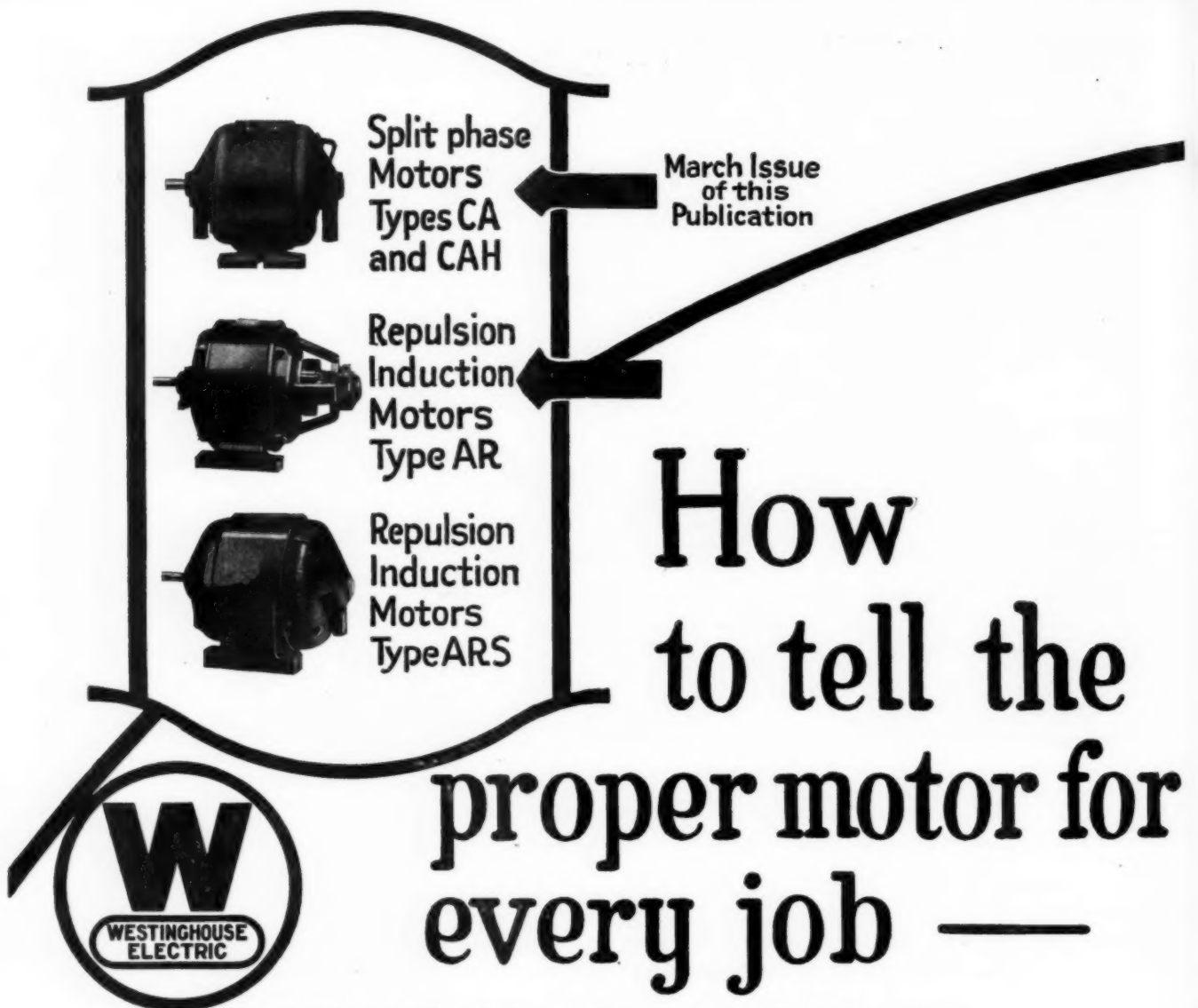
THE ROBBINS & MYERS COMPANY

SPRINGFIELD, OHIO

BRANTFORD, ONTARIO

Robbins & Myers
Motors *and Fans*





Split phase
Motors
Types CA
and CAH

Repulsion
Induction
Motors
Type AR

Repulsion
Induction
Motors
Type ARS

March Issue
of this
Publication

How to tell the proper motor for every job —

W
WESTINGHOUSE
ELECTRIC

For some time the Westinghouse Company has realized the need for more information on the above subject which will help the dealer to analyze every motor job, and to select the proper motor and controller for any particular application.

We have, therefore, decided to use our advertising pages in this magazine to explain what various kinds of motors are in common use, how each kind operates and what they are best adapted for.

On the opposite page the repulsion-induction motor (Type AR) is discussed. Next month we shall explain the type ARS repulsion-induction motor and in following issues other motors will be discussed. The first of this series of advertisements appeared in the March issue of this publication and explained in detail the split-phase motor.

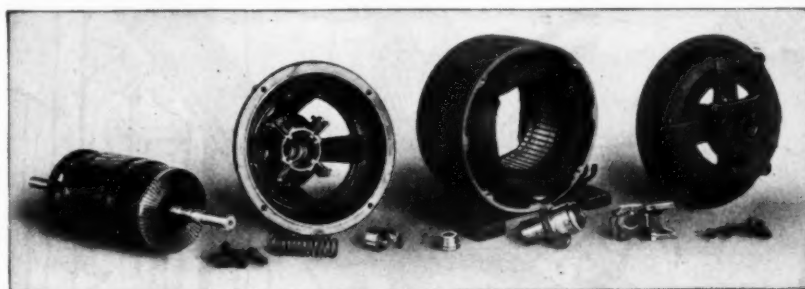
Keep these advertisements handy for future reference.

Westinghouse Electric & Manufacturing Company
EAST PITTSBURGH, PA.

Westinghouse

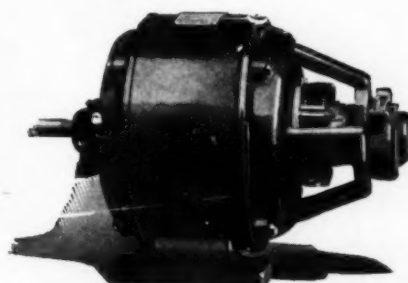
Single Phase Alternating Current Motors REPULSION-INDUCTION Type AR

Single phase motors, as a rule, are connected to lighting circuits. Therefore, it is desirable to have a motor take as little current from the line as possible when starting because a sudden rush of current to the motor will reduce the line voltage and cause lamps, which are connected upon the same circuit, to flicker or burn dimly. In the case of split phase motors, difficulties due to starting current became so serious on motors above $\frac{1}{4}$ hp. that it has become necessary to resort to a different method of starting single phase motors of larger sizes. This demand for a low starting current motor resulted in the development of the repulsion-induction motor, which has a stronger starting torque than the split phase, and at the same time draws less current from the line.

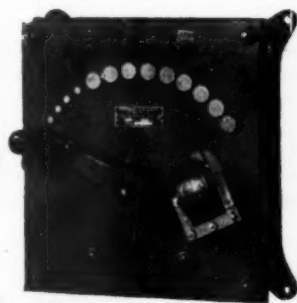


Exploded View of Type AR Motor

The Westinghouse repulsion-induction motor, type AR, is illustrated on this page. The stator is a single phase winding without any special features. The rotor or armature resembles in appearance that of a direct current motor, having a coil winding, commutator and brushes. The supply circuit is connected to the stator only, and when starting, the induced current in the rotor flows through the winding and the short circuited brushes. As the type AR motor approaches full speed a centrifugal device short circuits the commutator, lifts the brushes, and the motor then operates as an ordinary squirrel cage machine.



Type AR Motor Sizes $\frac{1}{2}$ to 10 Hp.



Type DR Rheostat

with type DR rheostat for reducing the starting current, are recommended. The type DR rheostat is sometimes used with motors of 1 to 3 hp. when in special cases it is desirable to further reduce the starting current.

The sizes start at $\frac{1}{2}$ hp. virtually where the split phase motors, type CAH, reach their top rating, and run up to 10 hp. Motors of this type are used for all single phase applications where a motor larger than 1 hp. is required. They are designed especially for use such as driving heavy pumps and other machinery which is hard to start. Type AR motors develop the highest starting torque of any Westinghouse single phase motor, at the same time taking less current from the line when starting. Type AR motors can be operated from a single phase lighting circuit, or from any phase of a 2 or 3 phase power circuit.

For single phase motors below 1 hp., a simple snap, or knife switch may be used for connecting the motor to the line. For motors of 1 to 3 hp., type WK safety motor starters, provided with overload protection, are recommended. For motors 3 to 10 hp. a type 815 switch, provided with overload and low voltage protection, and used

Westinghouse



Preferred

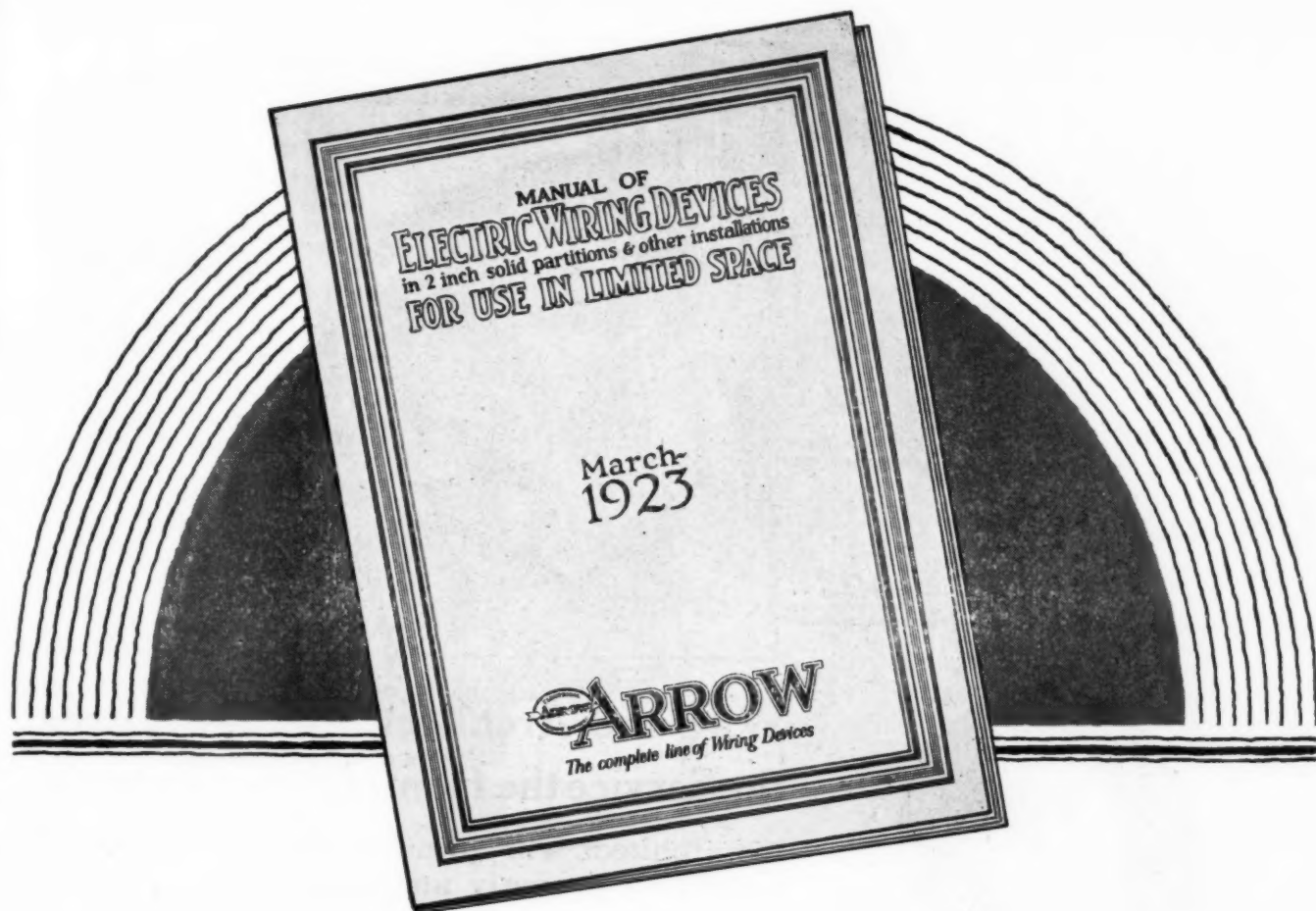
by women because the highly nickeled finish and the black handle make it particularly attractive—a splendid appeal to women.

Because the Westinghouse curling iron has a special swivel which makes it easy to use. The iron can be turned while held in the hand without twisting the cord. Do not fail to mention this important selling feature.

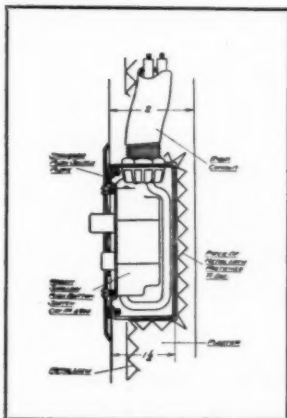
Watch for the April issue of the Ladies' Home Journal—this four-color Westinghouse curling iron advertisement affords you a splendid opportunity to tie-in.

Westinghouse Electric & Mfg. Company
Mansfield Works, Mansfield, Ohio

Westinghouse



Your copy of this Manual is ready—*write!*



Arrow Shallow Switch
in 2-in. solid partition—
metal lath construction.

THE Arrow line of 1-inch switches and receptacles has been developed for two distinct purposes: First—to meet the need for proper electrical equipment in 2-inch solid partition and other installations with limited space. Second—to give adequate wiring room in 3-inch and 4-inch partitions.

There is a complete line of 1-inch Arrow fittings now available, and a variety of 1½-inch outlet boxes in which to house them.

With this new development, proper electrical equipment, properly located, is no longer a hindrance to the adoption of 2-inch solid partitions.

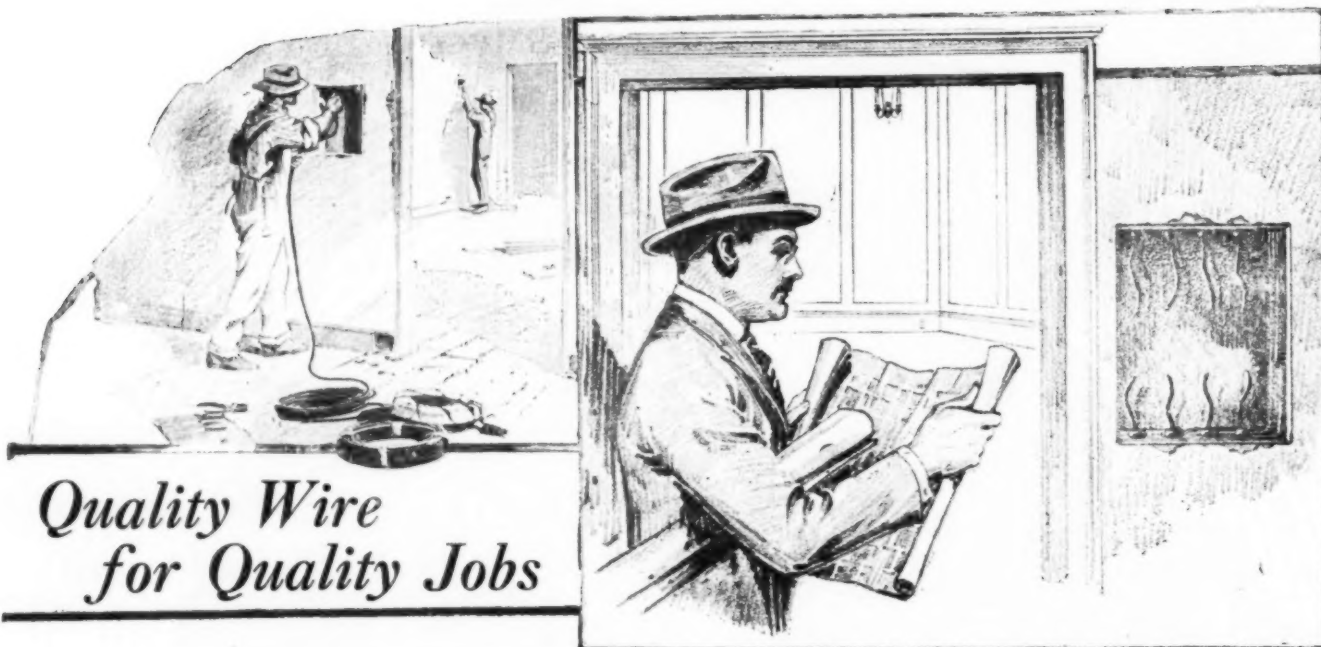
This manual tells the whole story, illustrates typical installations and gives complete authoritative information, compiled by our engineers for your benefit. It is a hand book you cannot afford to be without. We will be glad to forward a copy on request.

THE ARROW ELECTRIC COMPANY
Hartford, Conn.

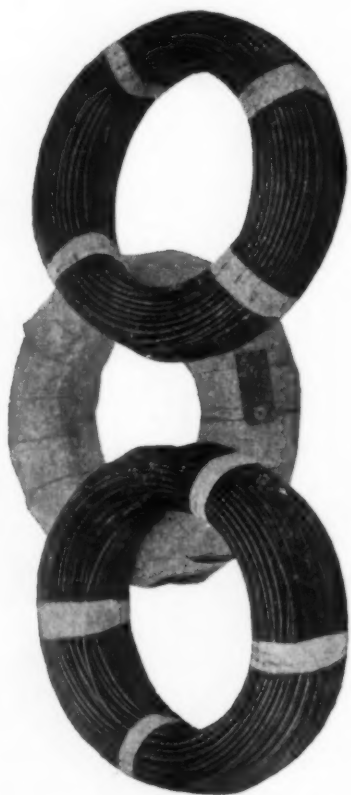
ELECTRICAL
ARROW
WIRING DEVICES

ARROW

The complete line of Wiring Devices



*Quality Wire
for Quality Jobs*



Wire the Architect Specifies Gives the Service the Home Owner Expects

No architect will question the importance of specifying properly insulated wire—an ever increasing number of them are specifying "General Electric." The vulcanized rubber compound which is used by the General Electric Company is the most practical rubber insulation known.

Three standard grades of rubber insulated wire are made: Red Core—the regular commercial grade, more than complying with the National Electric Code requirements—Tricoat, a slightly better grade and Thirty percent—having an extra high grade insulation suitable for severe service and high voltages.

Persistent advertising is gradually convincing architects and home owners of the value of the G-E trademark as a guarantee of excellence.

The electrical contractor who wires with G-E wire has no occasion to make excuses.

General Electric Company
Merchandise Dept. Bridgeport, Conn.

Code Wires

A GENERAL ELECTRIC PRODUCT



When they stop and ask

"How is the porch light?"—you show "on how all outside lights are controlled from inside and how with switches at every doorway one need never be in the dark."

Builders attract more prospects by advertising "Homes Electrical"

"Completely electrified" in any real estate advertisement acts as a magnet. It attracts hundreds of home seekers who pass over the average advertisement. Taking a hint from the "model homes electrical" which have drawn big crowds of buyers or critics, progressive builders are today building, advertising, and selling "homes electrical."

Building in homes electrical instead of ordinary houses, is just a matter of completeness of wiring and quality of materials.

A small addition to the cost provides complete electrical convenience with G-E Reliable Wiring Devices—and the building advances from the home class to the "home electrical" class.

Selling electric homes means low sales effort, quicker sales, more profit.

G-E Reliable Wiring Devices, nationally known as the standard of excellence, give the home buyer the assurance of dependable electrical service.

Merchandise Department
General Electric Company
Bridgeport, Connecticut

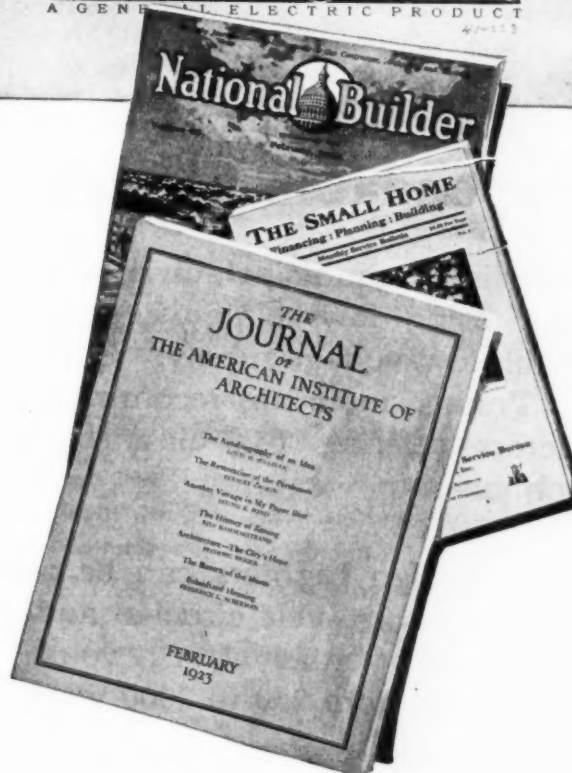
Wiring Devices
A GENERAL ELECTRIC PRODUCT

And Now the Architect and Builder—

Mr. and Mrs. Homemaker got a lot of new ideas about housewiring last year and so did their architect and builder. The new G-E advertising this year pays special attention to these last two classes.

Thousands wrote us last year of their interest in housewiring—and this year this interest is developing into increased business for the electrical contractor, stimulated by G-E advertising in the building and architectural papers.

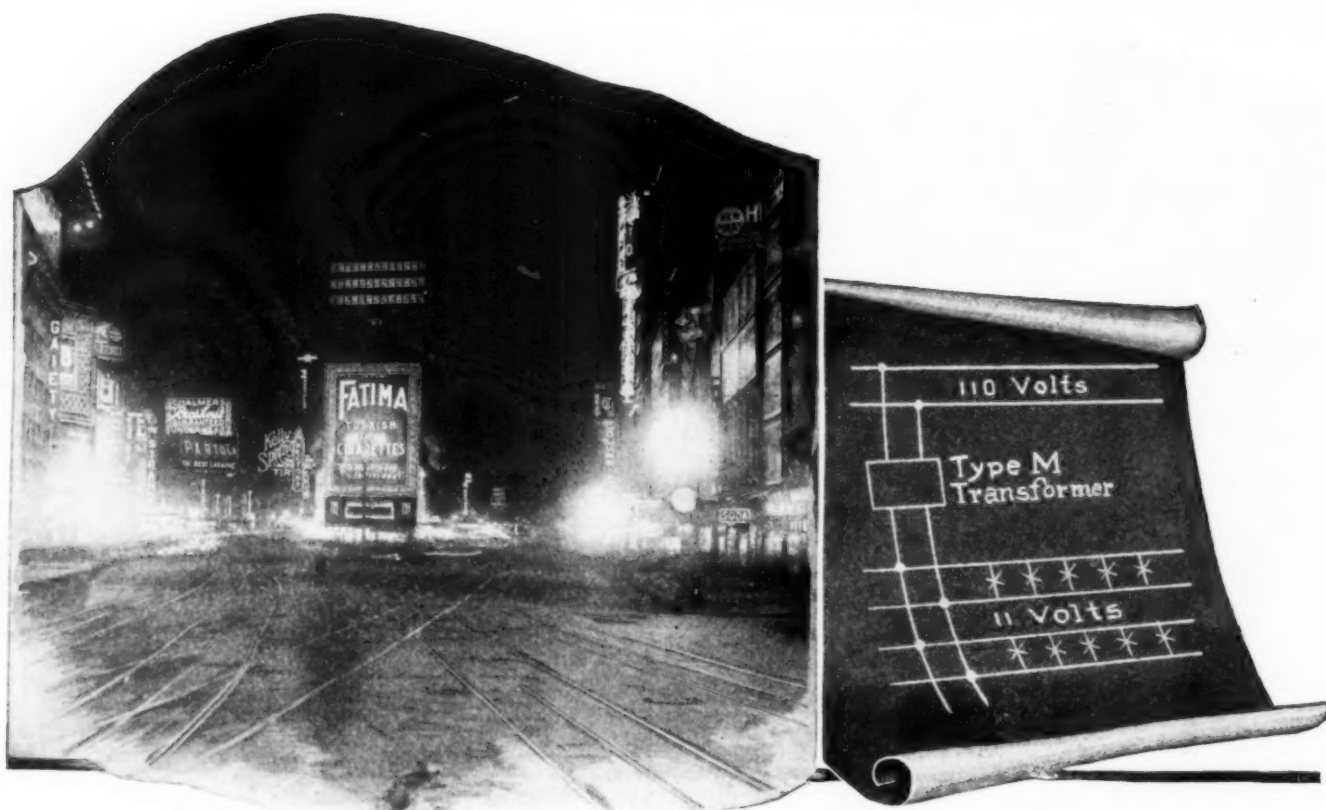
Tie-in dealer helps are available so that every live electrical contractor can have a direct share in the results of this publicity.



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GE Wiring Devices

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 Sales Offices in
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33A-137

NATIONAL ELECTRAGIST

FORMERLY ELECTRICAL CONTRACTOR-DEALER

FARQUSON JOHNSON
Editor and General Manager

(Trade Mark)
Official Journal of the
Association of Electragists—International

JAY S. TUTHILL
News Editor

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The New Electrical Code

On March 12 the Electrical Committee of the National Fire Protection Association conducted a public hearing on the proposed changes in the National Electrical Code. The board room of the New York Board of Fire Underwriters was filled to overflowing. Gratifying interest was shown by the serious attention which the audience gave to the various speakers who stuck closely to their texts, there being a marked absence of the irrelevant and rambling speeches which often have clogged the proceedings at previous meetings.

Perhaps this was due largely to the fact that the bulletin announcing the proposed changes had been prepared in better form than ever before; to the early issuance of the bulletin, which gave ample time for consideration of its subject matter; and to the increasing experience of the officers and members of the committee in conducting their hearing under the new routine adopted some years ago.

The principal interests seem to center upon the proposals (a) to place barriers between electric meters and gas meters; (b) to revise the 660 Watt Rule and allow 15 ampere fuses as protection for branch circuits; and (c) to call for outlet boxes one and a half inches deep for all side wall outlets in new buildings under construction.

For two days following, March 13 and 14, the Electrical committee held closed sessions at which final action was taken. The 1923 edition of the National Electrical Code has therefore been adopted, subject to approval by the National Fire Protection Association.

Lacking Self Respect

To the electrical industry in its various branches, local and national association work has brought unquestioned improvement. The future good to be derived is like compound interest in one sense—its rate of increase is most rapid. But it is unlike it in another sense because with the carrying out of association ideas there can be made no accurate estimate of the compounded benefits.

Whether a man is or is not an association member he is bound to profit by the results of organization efforts. This seems hardly fair, although it has been proven true. But naturally a member will derive far greater advantages and feel the results more quickly by his opportunity for direct

contact—correspondence and the distribution of information.

Large and small firms alike realize what trade associations have done to eliminate trade abuses, and the man actively engaged in the association movements feels a genuine sense of pride in having been a party to trade betterment.

But what must a man feel who knows that this work is benefitting his business conditions, and yet does nothing personally to add to its growth or strength? What self respect can he have who accepts that for which he is unwilling to make any attempted payment? The man who stands out, stubbornly asserting his business independence and refusing to support financially and actively his local and national association, cannot have a very high sense of honor—and he must be blind to his own business interests. He is nothing less than a slacker who voluntarily or involuntarily is prospering on the efforts of others.

Business integrity is dependent on following every line which leads to improvement within any branch and which helps to tie in on all industry matters and those of kindred trades.

Urge Better Housewiring

As the promise of spring and real spring itself advances, the kitchenettes and the apartment house cave dwellers begin to look more and more wistfully at the magazine and newspaper illustrations of attractive bungalows and country houses. They dream over floor plans—they scheme to add to or dispense with certain furnishings, and about the first consideration after that is the question of what electrical equipment may be provided.

The average house buyer knows what electrical comfort means but he has not been educated technically in the knowledge of how vitally necessary for this comfort and convenience is quality of material and workmanship. This is also true of architects, or it is charitable to consider it so. Their specifications do not invariably call for the highest standards in electrical equipment. They do not figure in enough for electrical cost. That cost is usually sacrificed for something which makes for a good outward showing—that which seemingly has a greater selling value.

This is a condition which can be corrected only by intense and persistent effort of the man supplying the material and workmen. Every electragist must get into the

thick of it before the contracts are signed. He must use every argument needed to convince the builder and the owner that just living up to city inspection requirements is not enough. Living with the best that the best may live and last is the final analysis. It is up to the electracist in every instance to show his trade associates and the public that standard and quality of house wiring is a most important building factor.

America's Fire Waste

Figures showing America's fire loss for the years 1918 and 1921 recently released by the National Fire Protection Association are of interest to electrical men; indeed they are illuminating. For in 1918 electricity headed the list of principal causes and in 1921 it was the fifth offender.

The report shows that out of a total of twenty chief causes, not including the losses due to spreading fires originating from various causes, twelve had greater losses in 1921 than in 1918. Of this number two causes had more than twice the amount of loss in 1921 than in 1918 and two almost twice. Eight, including electricity, had greater losses in 1918 than in 1921.

Between 1918 and 1921 the losses occasioned by electrical fires decreased thirty-seven percent—from \$20,780,307 in 1918 to \$12,723,209 in 1921. During the same period the number of buildings wired for electric service increased from some 6,000,000 to over 9,000,000—an increase of fully fifty percent—and the use of electricity by the people grew even more.

Relatively, therefore, the electrical fire risk up to the present time has decreased about seventy-five percent, demonstrating that the rapid electrification of the country is doing much to reduce the number of fires which might otherwise occur. This is borne out by the records kept in this connection by the Society for Electrical Development and the Underwriters.

Electragists can lend their assistance to the movement to further reduce fires of electrical origin by supporting the plan now being formulated to classify electrical fires according to their direct cause, which puts the blame for such fires clearly and directly up to the party responsible.

Such a plan has been worked out by the Society for Electrical Development. It is endorsed by the Electrical manufacturers' Council and other bodies, and a number of Fire Underwriters have expressed their interest in it. By grouping fires due to electrical causes in a simple and comprehensive manner it is felt that an effective instrument will be brought to bear in the reduction of faulty electrical installations because of careless and irresponsible workmanship.

Ambitions of Idealists

An increased membership means an extended field for association activities. From time to time this idea comes to Association of Electragists Headquarters from many parts of the country. Almost invariably it comes couched in terms which convey the impression that the writer or speaker thinks it entirely the child of his own brain and equally often it is followed by the question: "Is there not some way by which every member could be induced to go out personally and persuade just one new man to join?"

Then comes the argument that with such a concerted effort there would be at least from seventy-five to one hundred percent increase and each time these enthusiasts visualize what great strides could be made by having that amount of new blood infused, to say nothing of what could be accomplished with the increased revenue.

Another even as important a thing is the tremendous good which would be done throughout the whole association by having each present member taking so distinctively an active part in organization work. For with the infusing of new blood must come a rejuvenation of the old—a fact which each drop of the old should welcome.

It may truthfully be said that these earnest suggesters are idealists as well as electragists and the association needs and heartily encourages all such as cherish real business ideals. The time is past when the hard shelled business man can afford even furtively to smile at the man of vision. Webster's definition of an ideal is: "A mental conception regarded as a standard of perfection—a model of excellence, etc." What man in business today with this understanding of idealism dare deny that its exponent can be anything but a blazer of trails?

If it were not for the men of imagination would not all business become stagnant? If it had not been for Franklin, Edison, Alexander Graham Bell, and Steinmetz where would the great electrical industry have been today? The man who is satisfied with just the day alone and what it brings, is not among the progressives, it is the man who sets a higher mark than perhaps he ever hopes to attain, who succeeds. He is the man who is looking ahead to a steady advance—who looks weeks, months, and years ahead and who individually strives to increase the broadening influence and importance of whatever he in any way may be interested.

Therefore it should be recognized that ideals are not impractical—they constitute the motive forces which build for all improvement, and these several idealists are to be congratulated on their very commendable pioneer work in suggesting an every man campaign of one to increase the number of electragists one hundred percent.

Foundation Support

In an address at the recent annual banquet of the American Institute of Banking Barret Montfort of the Chemical National Bank of New York referred to the value of credit as follows:

"Credit is the motive power upon which commerce and production depend for locomotion. A sound and adequately strong credit structure is essential alike to the well-being of the body politic and to the body economic. The condition of the state itself is no more sound than is the stability of the credit structure which supports the commerce of the state. Credit in the last analysis is the keystone of the arch upon which is supported the civilization of the twentieth century."

It would seem that this thought contains a definite analogy which is possible of application to the electrical industry and the relationship of this great industry to the general consumer public.

Is not the contractor-dealer, figuratively speaking, the motive power upon which commerce and production depend for locomotion? Is he not essential to the well

being of the body politic and the body economic? It cannot be denied that the condition of the industry itself is no more sound than is the stability of the contractor-dealer structure which supports its consumer commerce. Perhaps it can almost be said that in the last analysis the contractor-dealer is the keystone of the arch upon which is supported the welfare of the industry so far as the branches as a whole are concerned.

It is well that these facts be understood and appreciated

by each branch of the electrical industry for the good of all, but most important is it urged that contractor-dealers themselves be cognizant of the situation and work toward its promotion.

The greater effort contractor-dealers put forth to promote and develop their own interests in the right way the more essential to the welfare of the entire industry will their support become. And then will the public demand an electrician's service more than ever before.

Educating Bill Jones the Contractor

It Is Not Always His Fault When a Potential Market for Electrical Appliances Is Not Developed as Others Think It Should Be

[NOTE: This article by J. Eugene Chrisman is reprinted from a recent issue of the "Electrical World." It is felt that a new angle is given on the much talked of subject which should be appreciated by all electricians.—The Editor.]

There is a good deal the matter with Bill as a retailer of electrical appliances, but only part of it is his fault. Most of it is the fault of the industry he is connected with. If Bill Jones is asleep on the job, what of the jobbers and the manufacturers that serve his territory?

If Bill Jones has eleven Slosswell washers collecting dust in his warehouse, whose fault is it? What sold them to Bill? Not the fact that he needed washing machines. Not much. The thing that sold those washers to Bill was the fact that the Slosswell's so-called dealer helps looked as though they would produce results and move the goods. Bill may not be a merchandizer, but he knows that the profit on washing machines so far as he is concerned begins only when they are out in homes washing clothes.

Campaign Experience

Bill did have the agency for a good vacuum cleaner, too. One day he received a letter stating that if Bill felt that a good live vacuum cleaner campaign would help in his town, the manufacturers would be glad to send a crew of trained salesmen to conduct such a campaign through his store. Bill bit. In due course of time the crew arrived.

The company sent a letter to most of Bill's customers stating that they had been selected by the Jones Electric Shop for a free demonstration and trial of the cleaner. Most of the folks in Centerville, knowing Bill to be on the square and feeling that he was behind the campaign, accepted the free trial. The crew stayed two weeks and made sixty-one cleaner sales.

The first week one of the salesmen jumped his board bill and departed between days, bringing down the wrath of the widow Elkins upon Bill's innocent head. A week after the departure of the crew numerous customers who had bought cleaners began calling Bill on the phone.

It developed that most of the "sold" machines had been merely left with the customer on the pretence of a thirty days' trial and no money paid down. They had signed monthly payment agreements on this pretext, which had been turned into the company as a bona fide sales, the crew having been engaged in a prize contest and each out to win. Bill suffered in silence, vowing never again!

What Bill Jones needs is real factory and jobber cooperation. Instead of gaudy window displays that are never displayed and broadsides that are never broadcast, he needs selling campaigns that sell goods. Bill Jones must be sold the idea that if he wants business he must go after it and then be shown how to do it. Bill Jones needs resale assistance that will involve the personal aid and guidance of trained factory resale men, on the ground and not in an envelop.

Will it pay to put a man on the ground to show Bill Jones how to sell? Decidedly yes. Within a distance of ten miles from Bill's store, waiting for good selling methods to gobble it up, lies approximately \$20,000 worth of vacuum cleaner business alone. There is possibly \$30,000 worth of small appliance business to be written on irons, heaters, percolators, toasters and fans alone.

It is surely worth the time of any washing machine manufacturer or jobber to begin working on the fifty-thousand-dollar washing machine market in his territory. In addition to this there should be not less than \$20,000 on

irons and \$10,000 on dish washers, considering only the better class of homes as prospects for these appliances.

Key Log in the Jam

Jobbers and manufacturers are asking daily, "What's the matter with Bill Jones?" Bill Jones is all right. He's waiting—waiting for some one to come along and show him how to do it. He's waiting for some one to show him that he's sitting on a gold mine. He is all set to go. He is established in his town. Everybody knows Bill; he's been square with them; their children go to school with his; he belongs to the same lodge as most of them.

Of course, if Bill had the enterprise he should have, he would undoubtedly have figured out a way to take advantage of this gold mine of his by himself. It's really too bad that he hasn't done it, for it would have saved the electrical industry a lot of trouble, but since Bill is just Bill there's no use lamenting the fact. The thing to do is wake him up.

The big problem not only of the electrical business but of every other business is turnover. In the electrical industry the problem starts with Bill Jones and goes right on up through the jobber's establishment and into the factory. Bill Jones is the key log in the jam.

Show Bill how to move goods and you break the jam that holds back profits and production. Its regrettable that Bill has to be educated into an electrical merchandiser; he should do it for himself. But he doesn't.

Let's educate him to the fact that if he wants business he must go after it. Let's educate him to the fact that the home and not the display room is the place to sell appliances. Let's educate him to the fact that no new home should go up in his city without him being on the ground to figure on modern wir-

ing and fixtures and a complete equipment of household appliances.

Let's show him why a home builder, putting up a home at a cost of say \$8,000, can be sold \$500 worth of appliances before the house is erected, making it \$8,500, easier than he can after he's moved in.

Let's show him how to keep card

files that keep him posted on the electrical needs of his territory. Let's show him how to use any one appliance as an entering wedge and how to follow up on it until he's sold full equipment. Let's show him how to put on and train a couple of outside house to house men and let's help him train them.

Let's instill into Bill Jones the Sell

'em something more idea. Let's realize that a dozen washers, cleaners or percolators gathering dust in Bill's store mean no more washers, cleaners or percolators on the jobber's salesman's order blank until those dozen are out in homes on duty and Bill is reaping the profit from them.

Let's prove it.

The Cost of Doing Business

By LAURENCE W. DAVIS

Director of Promotion and Development of A. E. I. Gives Analysis of Actual Statements of Twelve Concerns Ranging From \$13,000 to \$120,000

For a number of years past the Association of Electragists has published each year the average figures for the overhead costs of an electrical contractor-dealer's business, based on the compilations of hundreds of statements received from the Association's members. These figures represent the most authentic information available on this retail branch of the industry and as such should command the attention of every electrical man interested in a broad and economic distribution.

If such averages are correct and the contractor-dealer is doing an efficient, economic job within the limits of trade discounts allowed him, then the manufacturer and jobber need to consider carefully whether such discounts are producing the broad and complete distribution they are looking for. If the contractor-dealer is not operating efficiently then the weakness should be pointed out clearly and promptly and the way shown for a more economic service under present conditions.

In the compilation of average overhead made by the A. E. I. in 1922, based on contractor-dealer business done in 1921 aggregating about \$117,000,000, the following average percentages of overhead costs were found, figured on gross business billed:

Business Billed	Average Overhead
Less than \$50,000.....	34.38 percent
\$50,000 to \$200,000.....	30.79 percent
\$200,000 and over.....	25.98 percent

Whatever the result of this study may be in affecting the future policies of discounts and distribution, the individual electragist has but one immediate problem facing him—is he conducting his business today so efficiently that he can give his customers adequate service, advertising, delivery, good location, store clerks, etc., pay himself a fair salary, show a fair profit on his business, and still meet competition? Not alone meet

price competition, but the higher competition which is a combination of price, advertising, display and salesmanship?

To know where he stands in this competition it is essential first of all that the individual electragist should have accurate and complete knowledge of his own business, with detailed analysis of what it is costing him to operate his business as he is conducting it. Then if he could have placed before him the similar analysis of the costs of doing business of all his competitors he could readily see his weaknesses, correct the leakages in his business that his competitors avoid, cut down expense items which they have proven can be reduced, increase advertising or service so as to increase his volume of business in short, he would face this competition knowing the character and cost of the service he must give his customers to succeed.

General averages of all his competitors, however, will not give the individual electragist the comparison he needs to guide him to greater efficiency. General averages include too many inefficient units, mediocre competitors—too many unsuccessful examples. Their lack of success, their high cost of doing business and consequent low efficiency in the industry, may have been unavoidable, due to business depressions, bad debts or local conditions, but whatever the cause the record of their costs is a dangerous example for the electragist to use in comparing his results with that of others.

Success does not come from equalling the average; it comes through excelling the exceptional. So general averages are dangerous in a study of overhead costs; the actual results of successful concerns are needed as a basis of comparison.

In the following analysis of actual businesses the statements of 1922 busi-

ness from a large number of A. E. I. members have been carefully examined. The twelve statements which are shown in this analysis, ranging in size of business from \$13,000 to \$120,000, were selected because for the most part they show a comprehensive record of the business, they cover a representative range of conditions and methods of operating, and in most of the cases they are successful businesses.

A number of statements were discarded giving lower overhead apparently than any of those shown for an equal volume of business, but a careful analysis showed that important factors of operating costs had been ignored, such as depreciation, maintenance, etc. Several of the statements shown have excessively high overhead, but an analysis will show the reason for this, and will serve to point out the danger in a top-heavy business. Several of the statements are excellent; none of them are perfect; but the thing to remember is that they are actual performances and as such deserve the careful study of every electragist and comparison with his own results.

It must be kept in mind in studying the figures shown herewith that the statements cover the combined contractor-dealer business, that is, the total cost of operation of both the contracting and merchandising branches of these concerns shown as one operation. This average overhead cost is therefore higher than an economically operated contracting business by itself and lower than a merchandising store of equal character standing by itself.

It seems probable that such combined contractor-dealer businesses will continue for a long time as the best medium for properly serving a large proportion of our communities with retail distribution. The question naturally arises then, if such combinations of the con-

tracting and merchandising branches are desirable, whether at present both branches are standing on their own feet under the present scale of discounts allowed by manufacturers of electrical merchandise.

If the average overhead shown in these combined statements is around 25 percent investigations so far made prove that had the records of the two branches been kept separately with due regard for the proportionate costs of each, the overhead cost on merchandising would be around 30 percent and on contracting around 20 percent. In view of the present scale of discounts allowed the dealers averaging for businesses of this size around 25 percent on electrical appliances, it is a serious question whether the contracting branches of these businesses are not compelled to carry a heavy burden of the merchandising costs. Such a condition would discourage merchandising development and place an unfair handicap on the contractor in his highly competitive field, and the question needs the most careful consideration from the industry.

It is important that more contractor-dealers should accurately separate their records on cost of doing business for their contracting and merchandising branches, that the widest possible knowledge may be obtained on this subject.

Especial attention is called to the re-

lations between overhead, merchandise turnover and net profits as shown on the schedule. A low overhead does not necessarily assure a profit on the business, as that low percentage of overhead may have been created by securing a large volume of business through cutting of prices, taking contracts at too low figures, or disregarding consequences just to get the business away from competitors. Too often the statement is heard from contractors that they took a contract at a low figure just to increase their volume of business.

The result of this policy is evident in comparing the statements of firms Nos. 6 and 7 in the schedule. Here are two firms doing practically the same volume of business, \$34,000 each, but the results are over \$7,000 apart, one firm failing by \$2,200 of meeting its 22 percent overhead, the other firm showing a net profit of \$3,000 after covering its 28 percent overhead. This difference is clearly the result of radically different sales policies—in one case the securing of volume by sacrificing price, resulting in an actual loss; in the other case the maintaining of all sales on a profitable level and increasing volume by added salesmanship resulting in the full return on that increased sales cost and an actual net profit of 10 percent on the gross business.

A careful analysis of these two firms shows some interesting facts. Firm No.

6 succeeded in keeping its overhead cost down to 22.22 percent by cutting off any strong sales force, its total salary and indirect labor accounting to only \$2,825. It occupied a good store location, paying \$1,000 a year more for rent, light and heat than No. 7. To offset its lack of strong sales force it adopted a cheap price policy, evidently spending the \$948 in advertising to tell the public of the low prices. The result was volume of business—and a serious loss of \$2,193 at the end of the year.

Firm No. 7 spent \$5,241 in its sales force (a girl in the store and two partners in the field) and paid over \$1,200 in commissions on new business (included in the item \$1,838 for miscellaneous expense). The result was their overhead mounted to 28.13 percent—but they had adopted a policy that each sale must carry adequate profit and if salesmanship could not secure the business at that they were better off without the business. They spent \$121 in advertising, putting all of their efforts into selling the quality of their service. The figures show the results—they covered their 28.13 percent overhead cost of doing business and showed a clear net profit of \$3,025 on their \$34,000 business.

Firms Nos. 1 and 2 are examples of topheavy small concerns and in each case we find an actual loss of nearly

COMPARISON OF OVERHEAD BASED ON ACTUAL REPORTS ON 1922 BUSINESS (Twelve firms doing business from \$13,000 to \$120,000)

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
Gross Business Billed.....	\$13,037	\$16,715	\$19,271	25,000	\$27,002	\$34,725	\$34,400	\$40,162	\$44,918	\$65,719	\$101,280	\$119,837
Cost of Doing Business.....	4,903	6,235	5,057	6,059	6,352	7,718	9,676	7,935	10,940	18,337	23,421	30,265
Overhead Percentages.....	37.63%	37.3%	26.24%	24.23%	23.5%	22.22%	28.13%	19.75%	24.35%	27.9%	23.12%	25.25%
ITEMS OF COST OF DOING BUSINESS:												
1. Indirect labor	\$ 674	\$1,560	\$ 720	\$ 723	\$1,300	\$ 800	\$ 800	\$1,964	\$3,654	\$ 732	\$8,167	
2. Salaries	3,331	2,080	2,400	2,500	2,600	\$2,825	4,441	\$4,286	2,400	5,564	7,999	6,760
3. Rent	300	1,333	306	1,212	300	1,421	480	1,043	1,750	695	871	2,760
4. Light, heat and power.....	33	89	169	83	243	124	234	279	349	808	650	
5. Stationery and office supplies.....	20	51	44	29	40	261	115	73	150	109	402	
6. Postage, telephone and telegraph.....	69	124	77	78	180	111	55	153	209	650	622	
7. Advertising	99	60	74	502	25	948	121	190	565	856	1,938	2,360
8. Depreciation (on Merch. equip. etc.).....	63	100	323	71	365	387	250	163	600	-----	2,119	379
9. Freight, express and cartage.....	122	-----	11	25	331	445	327	626	359	1,832	1,118	
10. Delivery expense (Autos, etc.).....	135	100	268	288	400	352	434	535	329	2,424	2,380	218
11. Insurance	22	120	42	74	47	235	156	79	259	773	773	870
12. Taxes	146	19	18	115	204	128	36	224	612	462	230	
13. Bad debts and allowances.....	357	71	175	709	153	150	308	200	1,714	398	1,672	
14. Ass'n dues (all trade associations).....	74	49	38	174	63	-----	139	60	80	45	451	-----
15. Maintenance of equipment.....	-----	55	35	100	-----	-----	-----	600	-----	296	-----	1,878
16. Interests (on borrowed money).....	21	-----	-----	-----	-----	8	-----	125	405	123	949	149
17. Miscellaneous	95	-----	531	-----	-----	239	1,838	321	300	410	389	2,124
TOTAL OVERHEAD.....	\$4,903	\$6,235	\$5,057	\$6,059	\$6,352	\$7,718	\$9,676	\$7,935	\$10,940	\$18,337	\$23,421	\$30,265
Average amount merchandise in stock.....	1,193	3,222	585	938	2,048	4,268	3,137	4,584	7,876	9,196	20,282	36,970
Total annual merchandise turnover.....	5,466	8,001	6,868	8,403	12,458	24,780	18,006	20,635	25,666	34,718	60,128	66,956
Number of annual merchandise turnovers...	4½	2½	12	9	6	5½	6	4½	3½	3½	3	1.8
Gross annual payroll.....	3,090	2,944	3,532	2,895	6,576	4,420	3,693	8,059	7,134	8,288	17,830	18,402
Total cost of merchandise and labor sold....	8,556	10,945	10,400	11,298	19,034	29,200	21,699	28,694	32,800	43,006	77,958	85,358
Gross margin available for overhead & profit	4,481	5,770	8,871	13,702	7,968	5,525	12,701	11,468	12,118	22,713	23,322	34,479
Percentage of business done in contracting.....	90%	67%	85%	65%	85%	40%	45%	70%	55%	48%	57%	54%
Percentage of business done in merch'dising	10%	33%	15%	35%	15%	60%	55%	30%	45%	52%	43%	46%
Population of City where located.....	1,800,000	200,000	250,000	250,000	375,000	10,000	17,000	35,000	300,000	150,000	17,000	50,000

\$500. No. 1 has a salary and indirect labor cost of \$4,005, over 30 percent on a \$13,000 gross business. No. 2 paid \$3,640 for salaries, or 22 percent of the gross business, and also has too heavy a rental burden, 8 percent on the volume of business done. They are also carrying too heavy a line of merchandise for that volume of business, \$3,222 average stock resulting in only a two and one-half times annual turnover. The result of these topheavy expenses is the forcing of their overhead to over 37 percent in each case, making it very difficult to secure sales at a profit in the face of normal competition.

Firm No. 3 is an ideal example of a small contractor-dealer business, largely contracting. With a volume of only \$19,000 business they have kept their overhead to 26.24 percent. A girl in the office, the manager drawing \$200 a month, \$25 a month rent, adequate provision allowed for depreciation and maintenance of equipment—this statement shows a careful watchfulness of the business. The average merchandise and materials stocked was only \$585, resulting in a 12 times turnover of merchandise (an actual 30 days turnover). The result is a clear net profit of \$3,814, or very nearly 20 percent on the gross business.

Firm No. 4 shows exceptional results. With a gross business of \$25,000, they have operated a retail store with \$100 a month rent, a sales girl in the store, the manager drawing \$2,500 a year, have spent \$502 for advertising, have taken an active interest in local and national trade organizations to the extent of \$174 a year, have made adequate provision for all other expenses, and have an overhead of only 24.23 percent. The average merchandise carried in stock was \$936, showing a nine times annual merchandising turnover (a 45 days turnover). The result is a gross margin available for overhead of \$13,702 to cover their overhead of \$6,059, leaving a net profit of \$7,643, or 30 percent on their gross business.

Firm No. 8 is deserving of especial attention as they have apparently gotten their overhead down to 19.75 percent on a \$40,000 volume of business. This firm is operating in a city of 36,000 population and does mostly a contracting business, 70 percent of their gross business coming from construction work. It is questionable whether they have made adequate allowance for depreciation on merchandise, equipment, autos, etc., when they allow only \$163

for that item, as they are carrying an average merchandise stock of \$4,584 with four and one-half times annual turnover. The depreciation on such a stock alone must amount to more than \$163 besides depreciation on autos and other equipment. Also no allowance has been made for maintenance of equipment—replacement of tools, etc. Were these items properly shown the overhead percentage would probably have been around 21 percent. However, let us not overlook the fact that they conducted their sales policies on sound profit basis, and made a clear net profit above their overhead of \$3,533 or 8.8 percent on their gross volume of business.

Firm No. 10 shows an overhead of 27.9 percent, but they suffered a heavy loss of \$1,714 in bad debts. Had this item been a normal one their percentage of overhead would have been around 25.5 percent. However, their sales policy was a good one, based on the determination to get a fair profit on all their sales, and we find them making a net profit of \$4,376 above their higher overhead. Firm No. 11, on the other hand, with an overhead percentage of only 23.12 percent, evidently went after business too sharply, cutting prices until their gross margin of \$23,322 was \$99 short of their actual cost of doing business.

In the final statement, Firm No. 12, attention should be directed to the excessively heavy average amount of merchandise stocked, resulting in a turnover of less than twice a year. Should a serious drop in prices occur this concern is in a very dangerous position.

In this connection it is interesting to note the progressive falling off in merchandise turnover in inverse ratio to the increased volume of business as shown on this exhibit, starting with a 12 times turnover on the \$19,000 business and ending with the 1.8 times turnover on the \$119,000 business. Apparently there develops a tendency, perhaps a necessity, to stock up on all types and sizes of materials, special articles seldom called for by customers and slow moving appliances and devices in order to meet as far as possible every demand of the customer.

Great care needs to be taken by the electragerist to watch this tendency and prevent such dangerous overstocking, which in times of a declining market or business depression may throw the business on the rocks. A careful check on every item stocked should be made

and the average monthly consumption of all materials and merchandise recorded in the electragerists cost and price record. This average consumption record should be consulted whenever ordering new supplies of any sort and the quantity stocked kept as close to a 30 days' turnover as it is possible to attain.

The foregoing analysis of these twelve business statements is by no means complete and it is hoped that electragerists will find in further study of these figures many other valuable guides. Especially is it urged that each individual electragerist make a careful comparison of his own business statement with these actual records and check his own efficiency or weakness with these twelve possible competitors.

One outstanding feature in this analysis should remain clearly before every electragerist for all time as the basis for the conduct of his business—it is not the cost of doing business, important as that is in giving the public economical, efficient service, that determines the profits at the end of the year; but the character of sales policy adopted, either volume built through salesmanship or volume built by price cutting, that measures the final success or failure of the electragerist.

Washing By Air

Public Address System Used in Schenectady to Call Attention to Electric Way

Washing by air—sounds preposterous, doesn't it? Well, that was literally what was done when the people of Schenectady learned recently through the use of the Western Electric public address system just how to use the washing machine of that company.

The Western Electric public address system was mounted on a truck and amplified a speech by Roy S. Smith, secretary of the Albany chamber of commerce, and a complete program of Proctor's Theatre, also a musical program given by members of the Adirondack Power and Light Corporation. All of these programs were generously sprinkled with sales talks on the Western Electric washing machine, terms of the campaign that was being put on by the Adirondack Power and Light Corporation of Schenectady, New York, and general information on the washer.

Passersby would join the already large crowd and listen to the excellent features of the washing machine as well as the programs that were being feat-

ured. These messages and concerts could be heard over half a mile.

Wonder was written on the face of every person who heard for the first time such a sentence as "When you place the clothes in the wooden cylinder, put on the cover and start the machine," coming out of the perfectly still air.

The *Schenectady Union Star* said, "A large number of Schenectadians other than those attending the luncheon of the team workers in the chamber of commerce drive held in the Masonic Building today heard the address on civic betterments made by Roy S. Smith, secretary of the Albany chamber of commerce when the big amplifying apparatus of the Western Electric broadcast the talk from its equipment stationed in front of the building."

The Adirondack Power and Light Corporation is particularly well located to feature a twelve day washing machine campaign of this kind. Nearly everybody in Schenectady who uses light or gas goes to the office to pay his bill. The time chosen for the campaign was the time when the greatest number of bills were due. This brought a great number of people to the store.

The store was cleverly decorated with pennants strung over the entire space announcing the terms and length of the campaign. Signs were painted on the floor in brilliant colors with similar announcements. The window trims were attractive and eye-catchers. One window featured the old and new way of washing with a line of clothes strung the length of the window bearing the sign "On the Line at Nine." In another window a washing machine with gear

casing removed showed how the revolving, reversing principle was accomplished. Still another window held a washing machine in action full of suds with the cylinder revolving and also the wringer in motion.

The Adirondack Power and Light Corporation used its delivery trucks and meter rigs to good advantage by cleverly placarding announcements of the campaign, selling terms and emphasizing the closing date. A special display truck was put on the street which carried a message all its own. An old wash-tub, scrubbing board, and wringer manipulated by a character representing a typical farmer showed the old hard way of washing against which "Silas" continually complained and pointed out that if men were compelled to do washing they would do away with this method. The new way was featured on the other end of the truck. There was the washing machine beside which a young girl demonstrated with what ease washing might be done. "Silas" in himself was a drawing card with his clever witticisms and laborious washing and wringing.

The sales force consisted of six clean cut, aggressive outside salesmen bringing in business on a drawing account and commission and a competent inside selling and office force. The outside and inside forces were on the job every minute and used to good advantage the sales training they had previously acquired.

The newspaper advertising was a very thorough campaign. It consisted of teaser ads followed by regular daily ads.

During the entire twelve days of the campaign, practically everybody in Schenectady became aware of the fact that the Adirondack Power and Light Corporation was having a campaign of electric washers. One hundred and forty of these people responded by buying washing machines and the results of making the machines so widely known throughout the community will be felt for sometime.

Cost of Selling Appliances

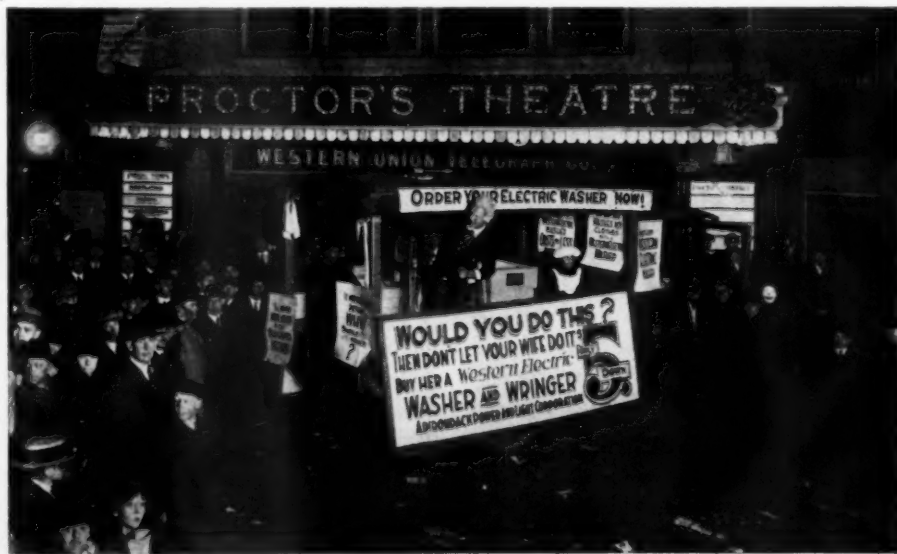
Greater Spread Needed by Electragists is Claim of New Englander

John P. Coghlin who heads his own electragist business in Worcester, Mass., recently sent a communication to the *Electrical World* on this subject and it was thought that readers of the NATIONAL ELECTRAGIST would be interested in his views as follows:

Some two or three years ago the then National Association of Electrical Contractors and Dealers sent out a questionnaire to its members and compiled some statistics which showed that the cost of handling electrical appliances amounted to about 35 percent of the selling price. Inasmuch as several commodities, particularly washing machines, vacuum cleaners and ranges, which ran into a large figure did not carry on an average more than 25 percent to a dealer, it was evident that there was no money in handling appliances from the contractor-dealer's standpoint.

The jobbers have also investigated this matter, but as jobbing experience is more or less varied between men who only receive and ship out in original packages and those who retail, I have no record of any definite figures being determined. I was at the contractors' meeting in Cincinnati where Mr. Gilchrist brought out the fact that central stations' contractor-dealers must get more of a spread.

From our experience in appliances we know that the central station or the dealer that retails units such as washing machines, vacuum cleaners, ranges, refrigerating outfits and appliances of that type has a large expense bill in connection with demonstrating, trucking back and forth and then servicing the apparatus after it has been installed. We believe it is all right for central stations to exploit machines which require demonstration and a large amount of service, even though this may not show a profit, since the demand must be created and the experimental tryout



This is Believed to be the First Use of a Public Address System to Aid the Sale of Electric Washers

with the public must be conducted by somebody and central stations are naturally better equipped financially to do this experimental work. But after the appliance has reached the condition that the vacuum cleaner, washing machine and range have reached today it should not be necessary to sell these goods at a loss, but the public will then be well enough acquainted with them to make the expense of exploitation unnecessary.

An Apt Illustration

This is illustrated in the case of the flatiron. When the flatiron was first

brought out it was necessary to allow a customer to try it out and experiment with it, which added to the selling cost. In fact in the early years of the flatiron it was sold at a loss. Today the flatiron is recognized as a household commodity, and there should be no expense in connection with demonstrating or exploiting it. We believe from our experience that selling appliances such as flatirons, toasters, percolators, etc., can be handled at a smaller margin of profit than in the case of other types of machines.

I have looked into this situation from

the department store's and furniture store's standpoint. I find as a general thing that department stores and furniture stores are not interested in handling large electrical appliances unless there is a spread of 50 percent or more. I understand the usual spread in furniture is even higher than this. It would seem to me the only thing for us to do is to let the jobber, the central station and the contractor-dealer on the one hand get together and determine what is an equitable profit for handling these goods and then present this proposition to the manufacturer.

Keeping in the Public Eye

BY W. B. STODDARD

There Are All Kinds of Ways as a Description of This Electragist's Activities Proves

"The only way to make a success of business," said the local manager of the Southern Electrical Company, San Diego, Calif., "is to keep your name and merchandise constantly before the public. The man who fails to use all the media of advertising is cramping his business continually. And the advertising must be varied too. People get accustomed to one kind and take it as a matter of course just as they do a building or an automobile. To keep their mind on your merchandise and make them want to buy it you must be devising new plans all the time. Window displays are of course the best medium in the long run, but billboard, newspaper, direct mail, circular and stunt advertising should be used in turn in order to keep a steady stream of customers coming your way."

The firm acts constantly on this suggestion of varying advertising. Its windows are not only interesting but timely. Its display for a special spring occasion for women had half the town talking about it, and materially increased its sale of lamps and lamp shades. The central objects in the window were two life sized models—borrowed from a department store—attired in smart frocks and wearing hats made of lamp shades. The first was a large wicker shade, with a band of foliage, and the other a silk covered confection in the delicate hues of spring. On the table between them were small shades with cord and tassel and a card observed "Chic effects in turbans."

Down front was a large wire frame

covered with foliage and roses in which were a number of flashlights, and a card suggested "This one will please her." Another card advised: "Creations by Lathrop (window display manager); materials by Westinghouse." On tables and on the floor were parchment, glass and copper shades, while a large blackboard in the background had written upon it "Our Spring Bonnets Are Different—They possess practical value—They are useful—So is everything else in our immense stock—Let's talk it over." Two big cards, also in scrawling script were attached to the window:

OH, SAY! LAMP THESE LIDS!

*They're not expensive either.
And they're useful.*

OH, GEE, MA!

*Is This a Millinery Store? No,
son, but I'll say these are SOME
lids. Keep your eye on these
headpieces.*

During the week previous a special lamp sale was conducted and at this time an ad was used with a border of lamps of different types, specimens of each of which were used in the window display. These lamps were described in a fascinating manner, and in order to bring large numbers of patrons into the store where they would get a better idea of the large stock, as a special attraction a small electric boudoir lamp was offered for a very low price.

Shortly previous to this campaign this company conducted a very successful spring overstock sale in order to move

its vacuum cleaners. It siezed upon the psychological period for this sale, as it was several weeks before spring house cleaning commenced, and in all of advertising the immense superiority of the electric vacuum cleaner over the broom was featured. The point was driven home that with an electric vacuum cleaner the semiannual tornado would be a thing of the past since a few minutes work with it each day would keep the house clean and render unnecessary the tearing up of rugs and draperies in the spring.

The window they arranged to emphasize the point employed the same wax figures as the other display—for the fact had been learned that nothing so quickly attracts attention to a window's merchandise as a stimulation of life therein. When a woman beholds a figure working with a machine of any kind she can much more readily visualize herself doing the same than when the merchandise is simply placed in the window without the appropriate home atmosphere. In this instance a living room was shown with rug, curtains and draperies.

The contrast in the attire of the two models served to bring home to the audience the difference in the dirt and labor involved in the manipulation of the broom and the vacuum cleaner. The one in house dress and mob cap carried broom and dust pan, while the one using the electric cleaner wore a negligee of corduroy velvet—and could stop her work to entertain a caller at a moment's notice, without a word of

apology. A blackboard between the two figures called attention to the fact that the cleaners were going fast: "Just a Few More Eureka's at This Price—Step Lively." Below the blackboard was a card "Your Spring Housecleaning—How will you do it? The answer is: With your own vacuum cleaner. It's here ready for you to take now. Two framed cards are displayed—the one containing a number of ads advertising the vacuum cleaner, clipped from newspapers; and the other stating the terms upon which a sweeper can be procured during Over-Stock Sale Week. Close to the glass is a big card with a five dollar bill attached, the card reading: "\$5.00 Puts the Eureka Electric Vacuum Cleaner in Your Home." Beside the card is a copy of the Saturday Evening Post, open at the electric vacuum cleaner ad, and in red pencil is scrawled: "Yes, we sell them."

Sign Board Advertising

Sign board advertising is another form that has been found very effective. Realizing that "brevity is the soul of—effectiveness" in this type of advertising, which must be taken in at a glance as the people speed by in auto or trolley, the firm generally use a picture of the machine they wish to advertise, with a brief caption telling of its merits, and closing with the name and location of their store.

Many of their ads are seen on the boulevards around San Diego, but one of the best uses to which they are put are on their own building. This is situated on one of the busiest corners of the business section, and the entire mezzanine story on both sides is given over to these boards. These ads, alternately of light and dark background so that each stands out distinctly, are given over to the advertising of electric vacuum machines, ironers and washers. In each case a picture of the machine is painted on the billboard, with a few brief phrases telling of its good points, and advising that demonstrations of same could be had either in the sales-room or the prospect's own home at any time to suit his convenience.

The company frequently adopts stunts to call special attention to goods, and one of the best was recently used to boost the sale of electric washing machines. Newspaper and billboard advertising showed a big key. This was run for a week without any additional information and then captioned "Have You a Key?" and went on to say that one of the washing machines had been locked with a chain and padlock and

that whoever could bring in a key that would unlock it would be given the machine. The ad concluded "Bring in your keys and try your luck."

The washer was exhibited on a platform in the electric laundry department and scores of people came in to try to unlock the machine. Their efforts naturally attracted the attention of everyone who happened to be in the department at the time, and thus all had their attention directed to the washing machines. When at length a customer did bring in a key that fitted they capitalized the fact by bringing the machine from the department to the show window, still with the chain around it, while down close to the glass was the key with a card: "This is the key that unlocked the padlock and won an electric washing machine."

Another card announced: "It may cost you a little more, but you will be just as lucky once you get the electric washer in your own home. Ask for a complete demonstration of its merits, either at the store or in your own home."

Greater Service Needed

Every business and every individual must be imbued with the spirit of greater service if America is to advance as rapidly as it did before the World War, says Martin J. Insull, vice-president of the Middle West Utilities Company and former president of the Na-

tional Electric Light Association. He continues:

It is this idea of greater service which made this nation great. The reward for success which came through the effort was a stimulus to greater invention, greater development of our national resources and development of the individual regardless of his employment capacity.

Employees of electric light and power, gas, telephone and electric railway companies, by and large, have been conceded to be courteous, but we must help them to become more courteous and more efficient. The progress which the light, heat, power, transportation and communication services will make depends almost wholly upon the personal service each employe gives to those with whom he comes in contact. Those workers who show the greatest appreciation of rendering service are those who will grasp the opportunities and advance most rapidly.

The utilities, great as have been their accomplishments and remarkable as are the services they render, still are not super-human agencies which can never go wrong. And governed as they are by the human element, and because of their intimate relationship to the everyday life of every man, woman and child, it is all the more reason that "greater service" be constantly the watchword so that the industry may play its full part in the nation's development.



The Southern Electrical Company of San Diego Did Not Have Any Trouble in Convincing the Public With This Display That to Do It Electrically is the Only Way

Central Station and Electragist Problems

By F. A. COFFIN

General Sales Manager of Milwaukee Electric Railway and Light Company
Presented Paper at Annual Convention of Wisconsin Association of Electragists

The electrical industry is one of the largest and most rapidly growing industries of the world. I understand that next to railroading it is the largest industry in this country. The fact that it has developed within the span of our lives shows that it leads in rapid growth. Its growth accelerates and notwithstanding the enormous progress which has been made as we look forward and consider the possibilities we can but constantly feel that the industry is still in its infancy. We cannot tell one morning what revolutionary development will be announced before the day is over.

We doubtless have as many and as difficult problems as confront those engaged in any other industry. The future of an industry depends upon the men engaged in it and our solutions of the problems before us today will determine our future welfare.

From data published there seems to be about 110,000,000 people in the United States, about 40,000,000 or slightly over 36 percent of whom live in what we designate as electrically lighted homes. If the average number in a family is between 4 and 4.5, there must be about 25,000,000 homes in the country, about 9,000,000 or 36 percent of which are wired for electric service. On this basis there are about 16,000,000 unwired homes.

Statistics indicate that 1,200,000 homes were wired in 1922. If this record is sustained it would appear that everyone ought to be living in an electrically lighted home in about 13 more years. Changing rates in the building of new homes and abandoning of already built homes will affect final results, but thirteen years is a figure we might bear in mind. We can hardly predict the rate that can be maintained in the wiring of already built homes but we can assume from past experience that it will increase. Some older houses never will be wired for economic reasons, and a number are so located that they cannot be reached economically by electric service lines, hence wiring will be deferred indefinitely. I have no data at hand to indicate the number of new homes being built each year which are not being wired, but it

seems safe to assume that if the time is not here now it soon will be when no one will think of building a home within reach of an electric service line and not wire it.

Housewiring Will Always be Needed

As we look at the matter therefore from various angles it appears reasonable to estimate that in about ten years more the available business in the wir-



F. A. Coffin

ing of already built houses will have been completed and wiring will so to speak be all caught up. Our old house wiring men, however, need not worry about going out of business when this point is reached, because when every home in America is wired we all will enter an era of greater business opportunities than ever before. Not counting all of the new homes which will be built, there will be 25 million installations where there are 9 million now, 16 million more places where household appliances may be used.

Then look further at these 25 million homes. We are now putting in better and more complete wiring installations and better fixtures than we did formerly, but the majority of homes have wiring and lighting equipment which will not be satisfactory to the owners in ten

years from now, and I predict that there will then be far more business in re-wiring and refixturing of existing homes than there is in the wiring and fixturing of already built homes today. When everyone has electric service in his home it will not be a question of whether or not he should have it but rather a question of how complete and elaborate the installation shall be; perhaps a financial question.

We are rapidly spreading the idea that good lighting is more helpful and necessary in a home than good furniture, draperies or rugs, and the use of electrical appliances, together with the advertising and sales efforts in connection therewith is gradually leading the American people to feel that electrical appliances are as necessary as porcelain bath tubs. You who observe home building today may be impressed with the bathroom and kitchen and general plumbing equipment being demanded and installed as compared with a decade or two ago—built in bathtubs, showers, hot and cold water mixing faucets, aproned sinks and wash basins, and tile floors. Do not these indicate something to you of the wiring and fixture installations of the future?

Increasing Central Station Load

The problem of wiring homes both old and new is one which interests every branch of the industry. Central stations need greater load density on their lines. It is much more economical to serve 20 or 25 customers in a block than eight, and correspondingly more economical to serve 20 ranges in a block than one or two. A residence service line in a sparsely settled district is likely to be unprofitable to the central station, and there is a point of load density and use of energy bearing a definite relation to the investment which must be reached before the line nets any profit. Central stations therefore must have some well defined policies covering the extension of new lines, and it is of material benefit to the whole industry in the particular community if contractors, dealers and fixture men understand these policies, recognize their justness, and cooperate in their application.

Many central station companies adopt

rate schedules designed to facilitate the use of electrical appliances and ranges, and generally a more extensive use of energy at residence installations. Some also offer special inducements in connection with the wiring of already built houses in the form of time payments for the wiring, refunds on electric service bills for a given period of time, etc., all for the purpose of increasing the density of load and the use of energy from existing lines.

A surprisingly large number of residence lighting customers today do not exceed their minimum monthly bills or do not use over five or six kilowatt hours in a month. These customers are not profitable to the central stations, and in general they are denying themselves comfort and conveniences available from a more extensive use of electricity to their detriment. The central station company's problem therefore is not only to get every home, particularly those along its lines, wired and connected, but to have the service used as extensively as is justified, so that the benefits of adequate and properly applied lighting may be enjoyed by every American family and so that everyone may have facilities for using electrical appliances and every electrical convenience which now exists or may in the future be developed.

Everyone else connected with the electrical industry has a vital interest in this problem also primarily because it involves about \$2,500,000,000 worth of wiring and fixture business and opens an immediate additional field for the sale of appliances and various household equipment of two or more billion dollars magnitude.

There is no branch of our business in which everyone engaged in the industry has a greater interest than in residence service, and in this branch the most effect coöperative efforts thus far have been put forth.

Better Store Lighting

Another problem of mutual interest to central stations and all other branches of the electrical industry is the better light of stores. Data on the magnitude of this problem has not been collected for the whole country and such a survey as was made by O. R. Hougue and J. J. Kirk of Chicago some time ago indicates the magnitude of this problem and shows conclusively that it has been sufficiently neglected up to now by central stations as well as by contractors, dealers, manufacturers, engi-

neers and in fact by all of those connected with the industry and dealing with lighting problems.

It is estimated that there are approximately 1,750,000 stores of all kinds in the United States, or about one store of some kind for every 14 homes. It is estimated also that about two-thirds of the stores in the country have electric service, or roughly 1,200,000. This would leave 550,000 stores as prospects for entirely new wiring and lighting equipment. The Hougue and Kirk survey indicates that about 70 percent of the Chicago stores are prospects for better lighting. If this figure applies generally, and it probably does apply fairly closely, there are about 1,225,000 prospects for better lighting in stores in the whole country. If wiring contractors, fixture men, and manufacturers of various other kinds of store lighting equipment and central stations will each estimate the value of his product, which could be used in these prospective installation, he can determine for himself the magnitude of the business in this field for his branch of the industry and determine the effort he can afford to put into developing this class of business.

Industrial Energy Consumed

By far the largest consumption of electrical energy is in the industrial power field and naturally further development of this field is a problem of vital interest to central stations. The 1920 Government census indicates that in that year the United States consumed 49,802,000,000 K. W. H. of electrical energy, of which 6,870,000,000 K. W. H. or 13.8 percent was for lighting purposes, and 42,932,000,000 K. W. H. or 86.2 percent was used for industrial purposes. It has been estimated that in 1922 this country consumed 55 billion K. W. H. of electrical energy, and if the same percentages hold true about 47 billion K. W. H. of this was used for power and eight billion K. W. H. for lighting.

In earlier days lighting constituted the principal load on central station systems, and the capacity of the plants and systems had to be adequate to take care of the late afternoon and evening lighting peak loads. These peaks were of short duration, and a great deal of equipment and distribution system material stood idle through many summer months and through a greater part of a 24 hour day, kept ready, however, to operate during the peak. One of the big problems in the past as well as at

present has been to build up a power load which would keep as much of the plant and distribution system equipment as possible operating through the 24 hours of a day. As a result of efforts put forth in some instances now the power load is of such relatively greater magnitude that the addition of the extra lighting load in the late afternoon makes but a small difference in the load curve of the system.

The lighting load, on account of the extra refinements involved and the relatively small consumptions at each installation and the relatively small use of the capacity required, commands a higher rate than power. Central station companies have given a great deal of study to rates with the idea of trying to make rates for the various classes of service compensatory as they properly should be. In order to produce and distribute energy to all classes of customers at the minimum of cost, central stations need a higher load factor throughout the entire day and throughout every day of the year. Hence they are naturally interested in both lighting and power service, but as previously indicated their general problem involves increasing the daily and yearly load factor on every class of installation and also building up the load density on all existing lines and transformers.

Many Development Opportunities

As one looks over the entire electrical field, either from the standpoint of the central station operator or from the standpoint of anyone else engaged in any branch of the electrical industry, there are so many opportunities for business development that one can but feel some confusion regarding where best to begin. We are now trying to get every already built residence in the country wired and connected for electric service, and likewise we are trying and hope ere long to reach the point where every factory and commercial establishment will be wired and equipped to operate by electric service. But as previously indicated when every factory and every commercial institution and every home is equipped with some electric wiring and electrical connections, our opportunities will have just begun. The introduction of electric service in a factory is but a beginning. New power and industrial heating equipment is being devised constantly and factories which used electric lighting alone at first later install motor equipment, then later all of the

various developments of automatic features, and now such factories are adopting industrial electric heating equipment wherever it is practical, and the outlook in the industrial heating field is so broad that reasonable estimates are hardly believable.

Contractor-Dealer Problems

Let us now look for a few moments at some of the problems which have been occupying the thought of contractors, dealers, jobbers, and manufacturers quite generally during the past few years, problems in connection with electric wiring, electric fixturing and electrical merchandising. With the enormous opportunities for business expansion and development before us we must look forward to the operation of each branch of the business on a profitable basis, and a study of the situation indicates to us that there are several irregularities which must be ironed out in some satisfactory and logical manner before this can be achieved. The lower the cost of our product to our customers the faster the development of our industry should be, but it must be developed at a reasonable profit for everyone engaged in it. Our industry is relatively new and has not yet reached the point where each branch can operate as smoothly as it should and get a reasonable return for its efforts, investment and responsibilities.

I will not endeavor to discuss some of the specific problems now being discussed by all electragists in regard to curbstone contractors doing work on a wage basis without overhead expenses and improper methods employed by many medium sized contracting firms which have not sufficient records and cost data to determine when they are making a profit and when not. It is rather obvious, however, that a great many wiring installations are made at very much less than a reasonable profit. Many small jobs are installed at practically labor cost. This is a thorn in the flesh of the industry and one which it is hoped will be removed as soon as possible. It is difficult, however, to control and it apparently can only be remedied by the close working together of manufacturers, jobbers, distributors, dealers and all of the so-called legitimate contractors who know how to estimate work so that a reasonable profit can be assured.

Wrong Features of Fixture Business

The fixture branch of our industry is one of the most important in connection

with better lighting and popularizing the use of electricity in homes, and there are several features of the fixture business which do not appear right to me, and I can but feel that some new principles will have to be infused into the fixture branch of our business before we can progress as we should.

One feature of the fixture business is associated with contracting. Many contractors also deal in fixtures and many of them have not seen the importance of making the wiring and the fixture divisions of their business each stand on its own feet as far as profits are concerned. I have heard the remark a number of times that a wiring job was taken at cost with the understanding that the contractor would also furnish the fixtures, on which he would enjoy a profit sufficient to compensate him for the whole job.

If he does the wiring work at cost and makes an undue profit on the fixtures, he is doing the contracting business an injustice. On the other hand if he under certain circumstances furnishes the fixtures at cost and makes an undue profit on the wiring installation, he is doing the fixture business a corresponding injustice, and in either case he must incur some animosity among his competitors in one branch or the other of the industry. While I do not wish to indicate that there is generally an undue profit on fixtures I can but feel that if a reasonable profit could be made on every wiring job, the fixtures in many instances furnished at a closer margin and still a reasonable profit.

In our efforts to push better lighting we are often handicapped by rather heavy costs for fixtures, and it appears that in a great many installations expensive fixtures are proposed regardless of whether they give satisfactory lighting results or not. To build our business solidly it must be built on satisfactory service, and while I hesitate to criticize fixture designers and manufacturers without studying their problems further, I have observed with considerable interest the difference of opinion frequently occurring between men who are manufacturing or selling fixtures and men who are endeavoring to achieve proper lighting results.

A fixture for a home may be expensive to manufacture and may be designed to harmonize artistically and architecturally with the construction, furnishings and decorations of the home, and yet it may give abominable lighting results. The tendency of the past few years to

get away from glassware enclosing the light sources can but be considered by those who strive to achieve good illumination to be a step in the wrong direction. Many artistically designed and constructed lighting fixtures today which cost rather large sums give exactly the same lighting results that a drop cord and socket would give. We have tried to frost and color lamp bulbs in order to break up light rays and improve conditions, but a round frosted or flame tinted bulb can be hung in a socket suspended from a drop cord and give the same lighting results that it gives if mounted in many modern fixtures.

In the better lighting work being carried on throughout the country now we are trying to promote lighting effects which involve to a large extent directed light subdued and diffused light, and the fact that we can so frequently achieve very superior lighting results with some of the unpretentious fixtures makes us feel that the trend in fixture designs at the present time is in many respects on the wrong road.

Merchandising Is Important

Another problem in the development of our business and one which concerns every branch of the industry is electrical merchandising. This subject is being discussed by every branch of the industry. It is one of the big problems in the industry at the present time. Merchandising and salesmanship are among the foundation stones of every industry under the sun. Our industry is new. We have been building power plants, transmission lines, distribution systems, making wiring installations, designing fixtures and doing a thousand and one more or less technical jobs, and have neglected the merchandising end of our business until within the past few years. It has been recognized, however, that our industry cannot progress as it should without proper merchandising of the equipment and appliances, materials, etc., necessary in connection with the production or utilization of our products.

Manufacturers Consider Problems

A number of large electrical manufacturing establishments have arisen, and these naturally have given the most thought to the merchandising problems. Obviously they have considered from many angles the various methods of distribution of their products. Large jobbing houses have arisen within the past decade or two and within the past five

years thousands of small electrical stores and sales rooms have been opened, many in connection with contracting establishments and many independently. Most central stations at first sold electrical appliances, supplies and equipment. Relatively few of them operated this branch of their business on a strictly merchandising basis. Some found it to be unprofitable and as other merchandisers opened establishments in their communities some of them gave up the merchandising business.

Electrical merchandising has not yet by any means reached a satisfactory basis, and as we view the whole field of electrical merchandising we are I believe unable to predict at this time what the future policies, mediums, channels, etc., of electrical merchandising will be. Many contractors who have open sales rooms are no more effective at merchandising than they are at handling the business end of their wiring business. Many independent stores and sales organizations have been unable to make returns adequate to justify their staying in business. That more intensive merchandising and better service in connection with the sale of electrical goods is necessary is recognized by most branches of the industry. Central station companies have recognized this fact quite fully, and as a result many of them who either quit merchandising or considered quitting it have decided to go into it again on an entirely new basis, to operate a merchandising division on a straight merchandising basis in such a manner that a reasonable profit can be made, and that this branch of their business will stand on its own feet.

Electrical goods of all kinds are now being sold by many department stores, drug stores and furniture stores. There is some feeling among electrical dealers and jobbers that these concerns ought to refrain from handling electrical goods. Objection, however, seems to achieve no results and it is fairly safe to assume that the future retailers of electrical goods will be those concerns which can render the best service most readily. These stores may be the logical retail channels of the future. We cannot say that a furniture store is not most admirably equipped to handle portable lamps and some appliances, nor can we say a drug store is not a logical store to handle curling irons, heating pads, boudoir sets, vibrators, etc.

We need not look far to see that we

have many problems to solve, and most of them concern practically all of us, so we must work together. We must study our problems from the broadest possible view, we must study the details of our business, learn to be stronger technical men, better bookkeepers, better salesmen, better executives, and above all stick religiously to sound business principles.

Pushing Special Items

Don't Wait for Customers to Ask—Tell Them First

Anyone who is buying or has bought goods for resale is aware of the constant effort on the part of manufacturers' salesmen to get him to push their particular product and always the statement is made that if he will push these goods he will be able to make certain profits.

This is not written with the idea of combating that argument, but certainly the poor buyer must have a problem to handle in deciding which of these wonderful propositions he should really push. The fact is that he cannot push all of them and if they are all good, some certainly must be better than the others and it is up to him to decide.

There is, however, another phase which is perhaps overlooked in the mad scramble to get dealers to push goods.

A man need not worry so much about the profits he fails to make by pushing this, that, or the other item if his time and ability are fully taken up, because it is quite easily seen that if he were to push the one item and make a profit he would probably have to cease effort on some other item and lose a profit already being made.

A matter which, however, should concern every business man is the money that is actually lost by not having goods for which a demand already exists. There are certainly things of a general nature about which the public is advised but which they do not remember to specifically inquire for. This refers particularly to cases where the product is secondary, as for example, radium luminous material as used on switches, sockets, bell centers, etc., or on a watch or clock dial. Or whenever products which require the use of other items sold specially which the consumer may or may not have, as for instance: sockets for which bulbs may or may not be required or fuse blocks for which fuses may or may not be required.

Let us assume that the dealer has in stock all of these various items and

referring to the illustration of the luminous switch, let us say that the customer asks for a switch or perhaps a socket or a bell button. It is easy enough to produce the article asked for, submit it for approval, quote the price, make the sale, wrap up the package, accept the money and consider the transaction satisfactorily handled. It is just as easy to produce the article asked for and the same item with the additional feature of the luminous material, quote the price on each, let the customer choose and in many cases accept a larger amount of money and then one can consider the transaction much more satisfactorily handled. The customer has been given a more satisfactory article and the store has made a larger sale. There has been no undue influence used on the customer and the feeling has not been aroused that they couldn't go into the store and get what they asked for because what they asked for was offered to them. In fact it is not necessary in most cases even to call attention to the luminous device. Putting the two devices down side by side, attention is almost always attracted to the luminous device and the customer asks to be told the difference.

So many people on learning about a new item such as radium luminous material prove to have just purchased something on which luminous material could have been sold them and then they will make the remark, "If I had only known, I would have been glad to pay the difference." Under these circumstances they feel just as dissatisfied with the purchase as though they had failed to receive what they asked for. They got what they asked for but feel hurt that the dealer did not take enough interest to call attention to something still better.

This same idea applies as regards selling better goods. It applies to the selling of certain kinds of switches as against other kinds, good electrical devices as against poor ones. It applies all along the line as long as there are two things answering the same general purpose, one of which will do the work better, look better, and last longer.

"Let the customers choose" would be a very good slogan. Some customers are "cheap skates" and make so much noise about a few extra cents that dealers often make a mistake of judging the public by bad samples. There are still thousands of people who do not ask so much what an article will cost as what it will do.

Proper Insurance For Electragists

By W. S. FERGUSON

Representative of St. Louis Firm, Lynton T. Block and Company, Explained This Service to Association Members at the Cincinnati Convention

Our plan should not be confused with the method of some insurance companies of arbitrarily cutting standard rates for the purpose of securing volume of business without regard to selection of risks, thereby making impossible of attainment one of the major justifications of a saving—reduction in losses.

That method is truthfully likened to an army recruited without regard to fitness of the individual units, great in numbers but unsound in personnel and sure to result in breakdown when subjected to unusual strain.

Even though the granting of a cut rate is not done for the sole purpose of volume without regard for quality, it remains wrong in principle and practice—as much in error as though a company, anticipating profits, weakened its capital by declaring dividends before they were earned.

After all, the ultimate object in buying insurance must be protection, not cheapness in price; absolute protection is afforded only by indestructible ability of the insurance medium to meet losses regardless of how great and unexpected a demand may be placed upon it; that ability is guaranteed only by an invincible margin of safety not possible with a pre-earned division of profits.

A few dollars saved through a cut rate would mean little to you if an insurance company in giving it to you and to thousands of others thereby so weakened its safety margin as to fail you when some catastrophe wiped out, or some damage suit threatened, the sinews of your capital.

Logically then, for the complete protection you desire more than all else, any saving in premium must be returned to you *after that saving has been justified by experience.*

Savings Effected

The soundness of that principle is not affected by the fact that in more than a decade of operation our policyholders have each year received savings that I believe equaled or exceeded any cut in rate that they might have secured elsewhere, and in all probability will continue to receive like savings in the future.

Experience proves that premiums

based on the standard rates in use by old line companies—which are the rates we use in calculating your premium deposit with us—when applied to carefully selected classes, such as those we insure, produce premiums of from 25 percent to 50 percent in excess of all outgo, if the insurance company's overhead is reduced to the minimum and agents' commissions are eliminated, as in our plan of operation.

This excess, together with other resources of our company, held during the period when the improbable but still possible unusual demand might occur, constitute the necessary invincible margin of safety.

This excess is credited to you at the end of each yearly period as a saving on your renewal premium; it is credited with safety as it has been earned. In any old line company there is no such credit never made you regardless of the experience.

Therefore our plan combines the desirable features in all others, plus worth while principles exclusively ours and fulfills our ideal—to afford the maximum in protection and the minimum in cost consistent with sound underwriting.

The only safe rate therefore which is fair to the assured and the insurer is a rate which is ample to carry the hazard involved, and that being accepted as a safe basis, it is but a natural sequence in the line of thought that those individual risks which produce few or no losses shall have returned to them proportionately that part of their premium which has not been exhausted by the actual fixed and limited overhead and in the settlement of claims. A step further leads us to another obvious conclusion—that those risks which have produced losses in excess of their premium are not entitled to share in the savings.

Merit Saving Plan

From this line of reasoning came what Mr. Block named the Merit Saving Plan and which has now been in effect since July 1, 1921. The plan benefits individually the risk which has produced a favorable loss experience and denies the costly risk any share in the savings or earnings.

With good experience a saving of 20

percent to 25 percent can be effected the first year and in the case of some of our longtime policyholders, whose favorable loss ratio reaches back over a period of years, savings as high as 50 percent have been credited.

For instance: Suppose an average saving of 20 percent has been shown on all the business written for one year. By taking into consideration the actual experience of the individual risks this average saving is properly distributed where it belongs, increasing the amount returned to the deserving assured and reducing or eliminating the savings to risks which have produced a consistently unfavorable loss experience.

Now we have served the electragists faithfully for more than seven years. During that time a good part has benefited substantially by the reduced cost of our insurance and many have not only expressed themselves as satisfied thereby, but have contrasted favorably our manner of claims settlements with what they have endured elsewhere.

All this is gratifying, but when we estimate the possible saving where electragists consistently to take advantage of our plan of Merit Saving, we believe we are safe in saying that the entire organization expense of the association could be met annually were it possible or practicable to so divert the various amounts saved. Repeated efforts to work out such a plan have never proven feasible, but each electragist, with the exception of the very small one, could individually save a yearly amount which many times pay his annual dues or contributions to the Association.

In all the years that our interests have been identified with the Association of Electragists we have used every legitimate means in our power to serve the electragists, and we wish right here to express our appreciation of the efforts put forth by the executive committee of the Association to make this savings and service available to your membership.

Automobile Insurance

Early in our career we found it advisable to provide automobile insurance for our policyholders, and that department has developed to goodly proportions. The savings plan applies to this

coverage also, and we have even found it possible to provide a plan for group automobile insurance which materially reduces the rates to begin with and gives the savings also at the end of the year. In this way a possible saving of 35 percent to 40 percent can be effected.

Just recently we have provided a three year automobile policy whereby the savings are anticipated in advance, or are amortized and become for all practical purposes guaranteed. Every advantage of the usual automobile policy is retained, and with the reduced cost under the group plan, and the savings anticipated in advance by the three year policy, the assured has everything to gain and nothing to lose. I shall be glad to explain this group and three year policy plan in detail to all who are interested.

I have a book which carries on its cover the significant words: "They Like Us Most Who Know Us Best." This phrase or slogan was suggested by one of our longtime policyholders as a fitting title for the collection of letters of congratulation which the book contains, and which came to us on the occasion of our tenth anniversary, December 1, 1921.

Shortly before that time Mr. Block came to me asking how we could best produce a souvenir to celebrate the success the ten years had brought. The suggestion was made that an announcement to our longtime policyholders would bring replies, which when produced in book form would rightly represent our standing with our assured.

We expected to get possibly fifty or one hundred replies. As a matter of fact we got that many almost at once, and the number kept increasing until it was a task to select those which could be included in the size book we finally decided on.

As the book stands it contains not only letters from the first electrical contractor on whom we ever wrote a policy, but from the first light plant, the first telephone exchange and the first hardware dealer. These properties are all still with us and have shared liberally in the almost half a million we have saved our patrons.

The book contains letters from electrical contractors in all parts of the country and the messages of appreciation and well wishes they carry confirm our belief that "They Like Us Most Who Know Us Best."

In other words we first sold our plan

of insurance to our customers, then we kept our promises of savings and gave them a claim service that has almost invariably held their business ever since.

Make Your Windows Sell

How to Do It is the Purpose of a New Service Offered Electragists

A merchant's windows are his silent but highly effective salesmen, working for him twenty-four hours a day, three hundred and sixty-five days a year, and yet how many electrical dealers overlook this fact and fail to capitalize on the value of their windows. The writer of this article a short time ago saw a window of an electrical contractor-dealer in a small town in the midwest that is unfortunately only too typical of a large number of electrical dealers' windows.

The window itself was well constructed, floor just the right height, and a large expanse of glass front. But what did he have in it? A small electric motor on a tripod stand, two old-time electric grills which had secured a permanent divorce from their coating of nickelpating, one toaster in the same condition, two sheets of flypaper that had performed their function exceptionally well, and a one-eighth inch covering of dust over the entire floor. And yet this man was paying a good rental based on the front footage of his store, and of which the window took up a considerable portion.

Department stores, and we must admit they know how to reach the people with their story, place a real tangible concrete value on their store windows, charging the different departments of the store various prices for the use of the windows, an average price being from thirty-five dollars to fifty dollars a day. Marshall Field of Chicago, in addition to the thousands of dollars every year spent in newspaper advertising are said to spend over \$400,000.00 a year on their windows. John Wanamaker and Gimbels in Philadelphia and New York are said to spend annually considerably over one hundred thousand dollars each on their windows.

It is apparent to all that there has been a very decided lack of appreciation of the value of a well trimmed window by the electrical industry at large, especially among the smaller dealers. This has been due in a great measure to the fact that there never has been offered to the dealer an adequate window trimming service that was within the reach of a modest pocketbook.

Electrical manufacturers have for several years past been offering the dealer their own window trim material with the manufacturer's name or trade mark liberally imprinted thereon. This material has been given the dealer free of charge, and has been used with indifferent success.

Appreciating these facts, and realizing the need by the dealers of a comprehensive window trimming service at



A Timely Display That Shows How Spring Activities Have a Bearing on the Use of Electricity in the Home

a moderate price, one of the large electrical manufacturers has recently offered to electrical merchants a monthly service that has as its fundamental idea helping the dealers sell—not only this manufacturer's product, but every line of electrical merchandise at a cost within the reach of any merchant with a store that is making some effort to sell his goods.

The service, as illustrated on the previous page, consists of:

(1) A wooden, three-panel, frame with the name of the merchant, or any wording he may designate, painted in gilt letters on a panel at the top; (2) three handsomely lithographed posters for insertion in the frame covering some general electrical thought or idea, rather than the advantages of any specific appliance, the subject generally being the same as the manufacturer's national advertising for that particular month; (3) a streamer for putting on the back of the window giving the general thought or idea of that month's trim; (4) four cards devoted to some particular electric appliance not made by the manufacturer supplying the service, or some general thought or idea such as convenience outlets; (5) two cards devoted to same particular Westinghouse appliance; (6) an instruction sheet sent out each month with the literature described above giving four different photographic suggestions of how the window display material might be used to advantage. Thus the dealer receives a wooden frame with his own name on it making it distinctly his own property, ten pieces of lithographed window literature each month, and a monthly instruction sheet, all at a cost of less than the price of a good cigar a day.

A feature of the frame that has met with universal approval is the blackboard background, which enables the dealer to convey any message to the public by removing any one, or all, of the three posters and writing the words with chalk or crayon on the cardboard back, which is painted with a weather-proof black paint making a regular blackboard.

Sells to All Dealers

The service has met with a very cordial reception by the trade, and several hundred have already been sold not only to small dealers, but also to large central stations who sell electrical merchandise. It is the sincere belief of its promoters that the service will help the dealer sell his wares. The manufacturer believes that by splitting the cost of the service with the dealer each will be benefitted thereby, the former getting more people into his store, with consequent increased sales, and the latter effecting a closer tie in with the dealer, and eventually more sales of his products.

Post Office Lighting

An opportunity is at hand for electragnists to install better lighting equipment in the post offices of their territory. This business obviously cannot be secured by all but it will prove well worth while to those who go after it hard enough to get it.

The office of industrial hygiene and sanitation of the public health service has submitted a report to the post office department recommending the adoption of a standard system of artificial illumination in all of the post offices of the country.

The report, based upon elaborate tests and surveys made at the request of the postmaster general, states that millions of dollars will be saved to the government through increased speed in the work of postal employees, provided that a complete change is made in the workrooms of post offices.

Post office work depends largely upon the use of the eyes, making the matter of illumination of major importance. In the survey, the office of industrial hygiene made a technical study of two typical post offices, one modern and one of an older type. Five thousand postal employees working in these offices were observed under varying conditions of illumination.

A study of the relationship between the volume of light and the eye-strain on the workers showed figures heavily in favor of those employees working in the modern office, while speed tests in sorting and handling mail showed an increase of 4.4 percent under adequate lighting.

Assuming that the same speed increase would prevail in all divisions of the post office in which the test was made, it is estimated in the report that after deducting the cost of new electric lamps and additional current, there would be a yearly saving of \$109,000 in this one post office alone.

Electricity's Progress

As an indication of the progress of electricity has made in the household the following editorial is quoted from the Moline, Illinois, Dispatch:

A few years ago, at any industrial exposition, food show, county fair or other place where many people went to see what was going on, and where exhibitors talked till they were hoarse explaining the wonders of the modern world to curious or incurious crowds,

what drew most of the women? Electric washing machines.

Every exhibit was surrounded with women who wanted to know whether they would really wash clothes clean, and who gasped with astonishment when they saw the evidence before them. The women also wanted to know what they cost, and what it cost to run them, and were they dangerous, and everything else. Their questions showed vast desire to be relieved of this heaviest labor, but a sort of incredulous ignorance about the whole matter.

This day has gone by. The women who attend these shows know all about washing machines. If they stop at all, it is to ask some intelligent question about late models, or to discuss with their friends the advantages of their own over their neighbor's, or to remark that they are going to have one like that in a few months—they would have had it last year, but hard times you know.

Vacuum cleaners get hardly a look of interest. They are too common. Even ironing machines are taken for granted—the women haven't all got them, but they know about them and are looking forward to their purchase.

Dishwashers are now the order of the day, and refrigerating machines. Five years ago it was a rare woman who could be won to believe in a dishwasher. Now they linger lovingly to hear the man tell, and to ask about cut glass and the kitchen pots, and many a woman stops to say, "Oh, that's improved since I got mine. Keep house without it? Never!" and passes on to the electric range and the ice-man-less icebox.

Ten New Commandments

The following ten commandments are clipped from a recent number of *Contact*:

1. Adopt a definite sales and management policy.
2. Save the wasted hours.
3. Departmentalize and keep sales records.
4. Have some plan of business solicitation.
5. Develop and use a mailing list.
6. Widen the scope of your sales efforts.
7. Acquire a reputation for service.
8. Watch your National advertising helps.
9. Read your business publications regularly.
10. Install a system of accounting and know daily where you stand.

Chats on the National Electrical Code

BY HUBERT S. WYNKOOP, M. E.

Monthly Discussion of National Electrical Code Practices by Well
Known Authority in Charge of Electrical Inspection, City of New York

Ground Clamps

Every once in a while we have to get after the ground clamps. Although there are established standards covering these devices, we find a constant tendency on the part of some manufacturers to put out a product which is just a little less than the standard. The following specifications for material appears in the Code of Underwriters' Laboratories, Inc.:

In the construction of ground clamps the materials may be copper, cast brass, malleable iron, or sheet steel, except that parts to which soldered connections are made must be of copper or brass. Sheet metal clamps, if of copper, must have a thickness not less than No. 16 B. & S. gauge (0.051 in.) or, if of steel, must be hot galvanized and not less than No. 16 U. S. gauge (0.0625 in.) in thickness. The minimum width of sheet metal clamps to be not less than $\frac{3}{4}$ in. Clamps, if made of malleable iron, must be hot-galvanized or sherardized in an acceptable manner as a protection against corrosion.

Gutters in Flasher Boxes

The Code calls for guttered cutout boxes where there are more than four circuits and these do not enter opposite their respective terminals. Strictly speaking, one might under this rule call for a gutter in a sign flasher box which frequently contains cutout; but the arrangement of the devices in the box seldom render it practicable to install a gutter. For this reason, if the flasher wires are properly cabled, and the taps are taken out of the cable directly opposite the cutout terminals, there seems to be no need for requiring the flasher box to be classed as a cutout box.

Connecting Flashes

It sometimes happens that a flasher is designed to care for considerably less circuits than the sign is wired for; and inspectors permit the circuits to be doubled up, thus placing some 2,600 watts under the protection of one set of fuses. This is bad practice. If the flasher does not fit the sign layout, another flasher should be substituted.

Truck-Type Switches

It is becoming the practice to employ truck-type primary switches in transformer vaults, or in a separate compartment adjacent thereto. Where such is employed, there is no need for any additional disconnecting switch.

Installing Flat Armored Cable

With the advent of this new type of armored cable, we are beginning to be asked whether the cable may not be run directly on the face of the lath and then plastered in. The cable is about seven-sixteenths inch thick, the fittings a little over eight-sixteenth, and the plaster over the lath about ten-sixteenths. Assuming that the plaster over the cable will be thick enough to prevent discoloration striking through if the armor rusts slightly, it is difficult to see how any inspection department can refuse to approve this method of installation in view of the second paragraph of No. 27d, which reads:

The lead covering is not to be required when the cable is run against brick walls or laid in ordinary plaster walls unless same are continuously damp.

With boring or gaining of floor beams eliminated, the cost per outlet for installing an armored cable job ought to be materially reduced, even if the flat cable costs more than the round.

2200 Volt Wiring

May open wiring at 2,200 volts be employed elsewhere than in central stations, substations and generator, transformer and motor rooms? No. 44a says not. No. 8b says *not for motors*. The only ground for arguing in favor of open work is found in No. 20d. This last rule relates principally to series arc lighting and, by inference, applies to any voltage; while the other rules cited apply to constant potential systems, and specify voltage limitations. On the whole, then, it would be proper to accept open wiring for series arc lighting at a machine voltage of 2,200, but wrong to approve it for constant potential at 2,200 volts.

Wires and Conduit Sizes

Several years ago I prepared a chart which enabled results to be arrived at by means of shifting a straight-edge. This was particularly useful in determining what might be done in revamping an old installation. For new work, however, the specific problem is usually to determine what sizes of conduit will be required for a given number of wires. The following table which may be pasted in a copy of the Code, I find convenient:

Size	Area	40% area of pipe	Nominal size of pipe
0000 strd. d.-b.	.581	.1227	$\frac{1}{2}$
000 strd. d.-b.	.515	.2074	$\frac{3}{4}$
00 strd. d.-b.	.454	.3142	1
0 strd. d.-b.	.396	.4909	$1\frac{1}{4}$
1 strd. d.-b.	.342	.7068	$1\frac{1}{2}$
2 strd. d.-b.	.251	1.2566	2
3 strd. d.-b.	.229	1.9635	$2\frac{1}{2}$
4 strd. d.-b.	.196	2.9635	3
6 strd. d.-b.	.166	3.8484	$3\frac{1}{2}$
8 sol. s.-b.	.055	5.0264	4
10 sol. s.-b.	.049	7.8540	5
12 sol. s.-b.	.036
14 sol. s.-b.	.028

Multiplying the area of one wire by the number of wires of that size; add together the areas; compare the total with the 40 percent area of the pipe; select the next larger pipe size. For example: 2 No. 8 and 1 No. 6: the area of 2 No. 8 is .110 and the area of 1 No. 6 is .166; the combined area is .276; the next higher 40 percent area is .3142, which is that of 1 inch pipe.

Electrical Fires in New York City

I have just been studying in my own fashion the electrical fire loss statistics of the New York Board of Fire Underwriters for 1922. This is what I find:

Classification	Percent of total fires	Percent of total losses
Electric irons.....	29	58
Defective splices.....	16	$1\frac{1}{2}$
Motor windings.....	8	$1\frac{1}{2}$
Grounding of conductors in or on metal.....	6	11
Short circuits in flexible cords.....	4	22
Toy trains.....	2	$1\frac{1}{2}$
Tinsel or cord in contact with base of Christmas tree lamps.....	1	1
Current following service conduit into building.....	1	$\frac{1}{2}$
Miscellaneous losses, each classification less than \$2,000.....	33	3
	100	100

Out of 26 classifications, only 8 warrant special consideration since these constitute 67 percent of the total fires (313), involving 97 percent of the total loss (\$205,883.53). Mr. Forsyth calls attention to the fact that \$189,746 of the loss occurred on work which his office had no prior knowledge or which he had listed as defective, while only \$16,134 (8 percent) developed in approved equipments

A. E. I. Executive Committee Meeting

Two Day Session Last Month Declared as Profitable as It Was Interesting by Members From All Parts of the Country

It was the consensus of opinion on the part of all who attended the semi-annual Executive Committee meeting of the Association of Electragists, International, last month that it was perhaps more successful in many respects than any ever held. An atmosphere of enthusiasm prevailed at each session which it might be said was cumulative as the business progressed until at the close of the final session everybody had decided he would go forth from that meeting and do his job as it never had been done before. The two day meeting on March 14 and 15 was held in the Builders' Trade Club, New York City, instead of at Association Headquarters as usual.

President James R. Strong called the meeting to order promptly at ten o'clock on the morning of the 14th and the roll call showed all members present with the exception of the following: L. G. Ross, Superior, Wisconsin, Great Lakes Division; A. Penn Denton, Kansas City, Mo., Central Division; R. A. L. Gray, Toronto, Ontario, Eastern Canadian Division; and Arthur L. Abbott, St. Paul, Minn., representing the Open Shop Section.

The chairman appointed Ernest McCleary of Detroit to substitute for Mr. Ross and Paul H. Jaehnig of Newark in place of Mr. Abbott. Harry G. Hicks of Toronto had been asked to substitute for Mr. Gray but was prevented from attending. Mr. Denton it was announced was in attendance at the public hearing of the Code in the city, but would be present as soon as this meeting was over.

Before adoption of the previous minutes President Strong introduced the members and other attendants so that all would become acquainted. Several members were in attendance for the first time.

The minutes of the previous meeting were adopted without reading and the chair appointed a nominating committee to report next day as follows: W. Creighton Peet, New York City, chairman; Joseph A. Fowler, Memphis, and C. C. Carter, Vancouver.

A referendum of the U. S. Chamber of Commerce on the activity of trade associations was considered and the committee of two composed of Mr. Peet and Counsel Franz Neilson which was ap-

pointed to act on it and report later, brought back a favorable report concerning the matter.

A proposal from the Society for Electrical Development was taken up providing greater opportunity for co-operation between that body and the Association of Electragists which it was thought would result in the elimination of much unnecessary duplication of work and routine to both organizations. It is proposed as a result of action taken at the Cincinnati convention that joint solicitation of membership be effected so that contractor-dealers in joining their own association may also join the S. E. D. at a greatly reduced rate of dues and get the benefit of the Society's valuable publicity material and assistance in other ways, which now can be secured only by joining it separately. After careful and thorough discussion it was voted to approve the proposal.

President Strong in the way of a re-

port spoke on the work of the Joint Committee for Business Development. He said that as a member of its executive committee he has been not only in close touch with its activities since its formation but has been in a position in a broad way to view the development and progress of the idea of the organization. He summed up his thoughts by saying that in his opinion the movement will benefit the entire industry if truly joint work is undertaken and no one organization in the industry is permitted to predominate. On motion by Mr. McCleary it was voted to wholeheartedly support the work of the movement as originally planned.

Mr. Strong then read correspondence from A. K. Baylor, chairman of the housewiring committee of the Joint Committee, relating to a minimum house wiring standard. It was pointed out that more and more attention is being given to the question of wiring and that the



—Courtesy F. A. Schutz.

An Unusual Night View of the Capitol. O, Yes, Washington Will Be the Scene of the Next Annual Convention of the Association of Electragists. Week of October 8 is the Time and Hotel Washington is the Place. Make Plans Early.

subject is largely in the hands of contractors by reason of their contact with the work. A resolution was presented on behalf of the wiring committees of the National Electric Light Association and the Joint Committee designating a minimum standard of house wiring outlets.

The subject was thoroughly discussed. Frank E. Watts, editor of *Electrical Record*, believed that a minimum of one convenience outlet in every room of every home should be adopted as a basis on which to work. Mr. Chamblin said that in the matter of lighting as well as convenience outlets it was a question of minimum wattage. Mr. Goodwin of the Society for Electrical Development stated that viewed from the central station's standpoint a convenience outlet is a means to an end, and from the contractor's it is usually the end. He advocated no minimum but rather a one hundred percent standard in order to Do It Electrically most effectively.

Mr. Headrick of Denver supported Mr. Goodwin's stand. Mr. McIntyre also of the Society presented the situation as he saw it after surveying conditions throughout the country and he said that in no new house that he had investigated in certain sections had he found less than one convenience outlet per room but on the contrary an average of at least three. Mr. Davis believed the task is to make all appreciate that service to the public is the most important factor involved. Mr. McCleary was of the opinion that a definition of the meaning of the term "outlet" would have to be ascertained before much could be done in the matter, and he cited instances where on account of lack of such definition money had been lost to the industry. On motion by Mr. Fowler the matter was referred to the Trade Policy Committee.

Mr. Strong continued his report as president and told how as a member of the N. E. L. A. executive committee he has helped to further the interests of electragists in connection with central station work. He said that contractor-dealer representation on the governing body of the N. E. L. A. is a big step forward and should do much to coordinate the work of both branches of the industry.

At this point the president invited all in attendance whether executive committeemen or not to take luncheon and dinner with the group and that both meals would be served in an adjoining room. He announced that arrangements had been made for a theatre

party that night to see the performance at the Hippodrome and that all were also cordially invited to attend.

The first matter to be considered at the afternoon session on the 14th was the bond issue of the Association which had been authorized at the last meeting of the Executive Committee. Mr. Strong announced that the sale had not met with as full response on the part of the membership as had been expected and Mr. Davis explained that the reason was on account of lack of capital in the case of most members. Mr. McCleary suggested that the sale of bonds be not restricted to the membership but that it include the other interests in the industry, and it was so voted.

As secretary-treasurer Farquson Johnson reported that business conditions in this branch of the industry had not materially changed since his last annual report when a depression was noted, and that any tendency toward improvement had been retarded by the railroad and coal strikes during the past summer.

Due to such conditions, he pointed out, the average business man continues to experience a feeling of uncertainty. Even though he may be fairly prosperous, as many of our members are, he is influenced by the prevailing currents of unrest that seem to be universal. Naturally his first thought is of self preservation. He thinks he must save his chance for future success by reducing his present expenses. He starts this program of economy by discontinuing his advertising. Then he withdraws from his trade association, stops paying dues, and feels that he has saved his business from disaster.

Mr. Johnson continued: "Since the annual convention at Cincinnati last October, at which time the amended constitution was adopted, many resignations have been received from members who said that they understood the new constitution did not recognize them as members, so they took occasion to resign before they were officially dropped. By assuring them that this was a misunderstanding and explaining that the present constitution would bring about a closer relationship with all members, we were able to hold some of these members."

The special committee appointed at the last meeting to study the recommendations made by Special Representative Laurence W. Davis in his report at that time were discussed by Mr. Jaehnig, chairman. It had been decided to establish a research department under

the title of Department of Promotion and Development with Mr. Davis in charge.

One of the activities recommended by this department was to undertake a census of the membership to determine the character of their business, and that such designation be put on the membership list by symbols such as: "E" representing a contractor-dealer with a store; "C" a contractor without a retail store; "D" a dealer doing no construction work, etc. Other specific activities were set forth and it was recommended that the work he undertaken as soon as the finances of the Association would permit.

As former special representative and manager of the newly created department, Mr. Davis, reported that the work under his supervision had progressed to an appreciable degree. He advised that the two field men, I. O. Whitten and Arthur P. Peterson who had been employed to cover the New England and Central Divisions of the Association respectively had accomplished much in their few weeks of endeavor and that both were in attendance.

In travelling over the country Mr. Davis said that under the revised constitution of the Association he had found conditions greatly improved. He said he had made a test trip just after the Cincinnati convention throughout the midwest and that while more or less misunderstanding prevailed in certain localities in regard to different phases of the Association's work there was no question that the reorganization had effected a decided change for the members' betterment.

He commented on the great value of various Association features in behalf of the members and said that the revised Data Book is itself worth more than the cost of membership. He outlined activities for the future and indicated the phases of promotion that are resulting all along the line in Association progress.

Mr. Peterson and Mr. Whitten were then asked to speak and the latter presented some statistics showing the result of his work in the Eastern Division. He indicated that his activity had met with a good response and he was optimistic for the future. Mr. Peterson although not having been in the field as long as Mr. Whitten gave a most favorable report which showed that his endeavor in the Central Division has been thus far successful and would be more satisfactory when he had made greater con-

tact in the field. Mr. Peterson is in charge of the work of compiling the Manual of Housewiring.

As the first of the standing committees to report President Strong advised as chairman of the Conventions and Meetings Committee that plans for the 1923 convention in Washington already had been formulated to a large extent. He looked forward to the biggest and best convention ever.

For the Electragists' Data Book Committee, Chairman Fowler reported that the proposed changes in this book had been completed and that members' books were being sent into Headquarters and exchanged, the obsolete matter being eliminated, the new matter inserted, and all indexed for ready reference. He explained the revisions which have been made and said that the new wiring symbols would be included in the book as soon as they have been approved by all interests concerned.

The report of Franz Neilson, counsel, touched upon the use of the trademarked word Electragist and pointed out what a valuable asset it is to the Association. He said that no difficulty had been experienced in limiting its use to members although a number of cases had come up where nonmembers were using it but that a notification explaining the matter was all that was necessary to restrain those concerns from using it.

The secretary read a communication from Arthur L. Abbott, of St. Paul, chairman of the Cost Data Committee, tendering his resignation from the Executive Committee. Mr. Abbott explained that he regretted to take this action but on account of the press of business in his own organization he felt that he could not give the time to the work of the Association at the present that was required of him. However, as he intimated that he would be in a position to take up such work in the future it was voted that action on his resignation be deferred.

In his report, read by the secretary, Mr. Abbott stated that since the last meeting the committee had begun work on housewiring costs and that forms had been sent to members by which they could keep such records as are required in the compilation of a manual on the subject.

As authorized at the Cincinnati convention arrangements were made with the industrial engineers, Tuttle, Wolf & Company, of Minneapolis, to take up the work of checking, revising and extending the estimating manual. Mr. Ab-

bott stated in his report that the Manual of Estimating apparently had been received by the membership with considerable appreciation and that it must be filling a definite need in the business.

The morning session on the second day began with a report by Mr. Headrick on the commercial section and wiring committee meeting of the N. E. L. A. held at Denver in January and noted in these columns last month. Considerable illuminating discussion resulted on the subject of this report.

A report was then heard from the chairman of the Code Committee, A. Penn Denton. The principal activity since the last meeting was completing the Code revision work which had caused Mr. Denton to carry on a large amount of correspondence with the membership as well as getting in touch personally with many interests and concerns involved. He came fresh from attending the public hearing on the Code and gave the meeting the benefit of his attendance at this hearing.

In the absence of Mr. Gray, the secretary reported on the Publication Committee and it was pointed out that a growing interest is being shown in the trademarked word Electragist. Several letters were read from contractor-dealers in various parts of the country who did not know about it but wanted further information as a result of recent articles appearing in the press.

The secretary also reported for the Standardization Committee. Mr. Johnson announced that the new wiring symbols which have been in course of preparation are now in the hands of a subcommittee of the sectional committee of the American Engineering Standards Committee and that they would soon be considered for final approval. He stated that he had acted as secretary of the subcommittee since its formation.

Other committee reports were as follows: Liability Insurance, chairman, Joseph A. Fowler, U. S. Chamber of Commerce, chairman, L. K. Comstock; and Trade Policy, covering manufacturers, central stations, jobbers and merchandising, chairman, W. Creighton Peet.

The report of the nominating committee made by Chairman Peet renominated Mr. Strong for president and the Executive Committee members as shown on the Association staff page in another part of this issue. The report was heartily approved and in accepting once more the presidency Mr. Strong stated that he deeply appreciated the honor of

being re-elected but that on account of pressing personal affairs he did it reluctantly and on the condition that he be relieved at any time during the term if he finds it impossible to continue the work. Announcement of Mr. Strong's re-election was warmly acknowledged.

Immediately after the reelection President Strong announced that a trip had been proposed to be undertaken by the president and Mr. Davis which would be nationwide. This is given in detail elsewhere in these pages.

The remainder of the final session was given over to open forum discussion which was participated in principally by J. Walter Collins of Chicago, Mr. Goodwin, Mr. Watts and members of the Executive Committee including Mr. Headrick, Mr. Carter and Mr. Chamblin.

A complete report of the proceedings of this meeting is in the hands of the printer as this issue goes to press and will be sent from Association Headquarters to all members at the earliest possible date.

Out of town visitors included Fred B. Adam of St. Louis and J. Walter Collins of Chicago, while the following were numbered as visitors from New York: O. H. Caldwell and Arthur E. Towne, *Electrical Merchandising*; Frank E. Watts, *Electrical Record*; Wm. L. Goodwin and K. A. McIntyre, The Society for Electrical Development, and J. S. Tritle and S. A. Chase, Westinghouse Electric and Manufacturing Co.

Division Meetings Planned

Electragist Officials to Take Nationwide Trip During Summer

At the Executive Committee meeting of the Association of Electragists held in New York City on March 14-15 a transcontinental trip was planned to be undertaken by James R. Strong and Laurence W. Davis, president and director of promotion and development respectively of that organization. The object of this trip, which will begin about the middle of June and end sometime in August, is to hold Divisional meetings of the membership.

This is another splendid activity resulting from the revised constitution adopted at the last annual convention of the Association in Cincinnati. It will be noted that one of the first changes to be made in that document proposed "To arrange for and promote meetings of electragists in the various sections of the country. Such meetings to be arranged to cover any given territory that is easy

of access from the point where the meeting is held."

It is felt that with only one annual convention of the Association a large part of the membership is unable to attend for the reason that expense of attending is often prohibitive, and other engagements conflict, to say nothing of the factor of time involved in the case of those whose business is in another part of the country from where the convention is held. All members should be able to attend at least one meeting of the Association a year if Divisional meetings are held, especially in view of the increased number of Divisions provided for under the amended constitution.

While it is understood that the Divisional meetings to be held this year are included in the schedule of President Strong and Director Davis, a plan is now being worked out whereby such meetings will become regular features in the future. They will of course be under the direction of, and arranged by, the Association Headquarters.

In those Divisions where Association representatives are at work the meetings will serve to stimulate and promote interest in the Association and thus help the representatives' effort along those lines. In Massachusetts, for instance, where the first meeting is planned in Pittsfield for the Eastern Division, that Division's representative, L. O. Whitten, will assist in the conduct of the meeting.

It will be seen from the itinerary following that a number of meetings are scheduled in addition to those designated as Divisional. Such meetings will be held at those points enroute which are perhaps almost as important as the Divisional meeting places from an Association standpoint and in which most worthwhile work can be done.

In Chicago the Headquarters officers will be joined by Arthur P. Peterson, the representative of the Central Division, who will accompany them to Denver. Here he will stop and go back over the course just traveled, visiting in addition to others, each city where a meeting has been held in order to carry on a follow up work. Mr. Davis will leave Mr. Strong at Vancouver and do similar follow up work back to Denver.

From Vancouver Mr. Strong will make the trip back east, holding meetings in the Canadian cities as noted until the schedule brings him to the Twin Cities, Minneapolis and St. Paul, where the official journey ends.

Contractor-dealers whether members

of the Association or not are urged to attend these meetings as the business to be taken up will be for their sole benefit.

It is expected that much good will come from such a transcontinental trip being made at this time by Mr. Strong and Mr. Davis. In some quarters in the past the membership of the Association has shown a lack of appreciation and understanding of the organization's work and through such divisional meetings a way is seen to overcome this feeling and develop in its place a distinct spirit of goodwill. The trip was decided upon immediately after Mr. Strong's reelection to the presidency. A tentative itinerary is as follows:

Pittsfield, Mass.—Here the first meeting of the Eastern Division will be held on June 14. States included are: New England States, New York, New Jersey, Pennsylvania, Delaware, Maryland, and District of Columbia. Luncheon and dinner are scheduled. The New York State Association also hopes to be able to hold its semiannual meeting in this place at the same time and in conjunction with the Divisional meeting.

Chicago.—On July 12 an afternoon meeting including luncheon and dinner will take place in Chicago of the Great Lakes Division. These states are in this Division: Michigan, Ohio, Indiana, Illinois and Wisconsin.

Omaha.—The party will arrive in Omaha for a dinner meeting of the Central Division on July 13. States included: Minnesota, Iowa, Missouri, Kansas, Nebraska, North Dakota and South Dakota.

Denver.—On July 16 electragists of the Mountain Division will gather in Denver to hear the Association officials. Luncheon and dinner will be served. Here are the Mountain Division States: Idaho, Montana, Wyoming, Utah, Colorado and New Mexico.

Salt Lake City.—A dinner meeting will be held in Salt Lake City on July 18. On the following morning the officials leave for Los Angeles.

Los Angeles.—A dinner meeting will be held here on July 20, the party leaving the following morning for the next stop. Contractor-dealers who attend the meeting in Los Angeles will be representative of the southern half of the Pacific Division.

San Francisco.—Here it is expected a rousing all day meeting will take place on July 23 by reason of the numerous contractor-dealers located in this terri-

tory, which also is in the Pacific Division.

Portland.—From San Francisco the party will go to Portland where another all day meeting will be held on July 25. A large number of contractor-dealers of the Pacific Division north will probably be in attendance.

Seattle.—Leaving Portland on the morning of July 26 the party intends to arrive in Seattle in time for a dinner meeting on the same day, and all of the northern part of the Pacific Division who cannot attend the meeting in Portland are urged to be at this one.

Vancouver.—On July 27 the party is expected to arrive in Vancouver in time for a luncheon and afternoon meeting. This will be known as the Western Canadian Division convention, but contractor-dealers in provinces outside of Vancouver may find it more convenient to attend the meetings following in Canada.

Calgary.—Arriving at Calgary on July 30, a dinner meeting will be held, after which departure will be made for Moose Jaw.

Moose Jaw.—A dinner meeting will be held at Moose Jaw on July 31.

Regina.—On the following day, August 1, a luncheon meeting will take place at Regina, and then the party will depart for the Twin Cities.

Minneapolis.—Either a luncheon meeting will be held in Minneapolis on August 2 or a dinner meeting on the day following.

St. Paul.—On August 3 a dinner meeting will be held in St. Paul where the trip will officially end.

Code Changes Adopted

Following a public hearing conducted by the Electrical Committee of the National Fire Protection Association on Monday, March 12, at the rooms of the New York Board of Fire Underwriters, the committee held closed sessions on March 13 and 14 and determined to recommend to the National Fire Protection Association for adoption proposed amendments to the National Electrical Code, a new edition of which is to be printed during the coming summer.

With a few important modifications the changes adopted are substantially those printed in the bulletin which was issued well in advance of the public hearing.

The proposal to require an approved weatherproof or rubber insulating covering for line wires operating at a voltage less than 500 was voted down.

The proposal to require barriers between electric meters and gas meters was not adopted.

The proposed third paragraph of No. 15-A-j was modified to read as follows:

"Where the secondary system is grounded at the service, the equipment, conduit, armored cable, metal raceways and the like may, by special permission of the inspection department having jurisdiction, be connected to the circuit grounding conductor, but otherwise shall have a separate grounding conductor of its own."

No. 15-A-n first paragraph is to be altered to conform to the above requirement; and the proposed new sentence in the 5th paragraph of No. 15-A-n is to be dropped.

The wrapping and soldering of wires to form a ground connection is not to be absolutely prohibited.

The proposed requirement of a deep outlet box on side walls has been changed to a recommendation.

The requirements for outdoor antennae have been modified in such a way as to require proper clearance and substantial construction but not to prohibit these wires from crossing over or under electric light or power wires, as was originally proposed.

Association Features

Reports at Association Headquarters indicate a splendid response on the part of members to recent Association features which have been issued. The new etched brass membership sign is highly regarded and is being prominently displayed in members' offices and stores. The license authorizing the use by members of the term *electragist* has also met with enthusiastic approval and this together with the sheet explaining the meaning of the trademarked word has been framed and hung in a conspicuous place.

Orders have been rapidly filled for large quantities of the folder for distribution to the public explaining the meaning of the trademarked word. These folders are of a convenient size to insert in a small mailing envelope and space has been left on the back for the member's imprint. They are sent postpaid from Headquarters at the following prices: 250 for \$1.00; 500 for \$1.50; 1,000 for \$2.50, and 2,000 for \$4.50.

A beautiful decalcomania window sign of the Association emblem setting

forth an *electragist's* service is now being prepared and will soon be issued to the membership. This is lithographed in three colors and when placed prominently on the office door or window front will identify members as nothing else can.

If there be any *electragists* who perchance do not know about these Association features, or having a knowledge of them do not appreciate their value and applicability, let them by all means get in touch with Association Headquarters and be fully informed.

New York State Meeting

Discuss Plans for Increasing Activities in Future

Something in the nature of a surprise party was given members of the Executive Committee of the New York State Association of Electrical Contractor Dealers on February 28 when they met in New York City to hold their midwinter meeting. At noon on the same date was held the regular monthly luncheon meeting of the New York Electrical League, and provision had been made for entertaining the Executive Committee members as guests of the League.

The speaker was John W. Lieb, vice president of the New York Edison Company. His subject was "The Electrical Industry and the Coal Situation." In introducing the speaker, President Walter Neumuller called attention to the many celebrities at the speaker's table, a most representative gathering from all the various branches of the electrical industry. These included President James R. Strong of the *Electragists*, President Frank W. Smith of the N. E. L. A., and the three past presidents of the League, James M. Wakeman, Arthur Williams, and James R. Pollock.

Mr. Lieb brought out many interesting points in his address, proving that the power companies have passed through some strenuous times in endeavoring to provide sufficient coal to supply the public with light, heat, and power. But as he said, it was their duty to look out for the interests of the public, although that fact is not always appreciated by those who receive the benefits.

The statistics submitted by Mr. Lieb in relation to the consumption of coal by the central stations were enlightening, and his address was interesting throughout and well received.

After the League luncheon, Chairman Mott called the annual meeting of the State Executive Committee in a meeting room of the Hotel Astor. There were present the following members: F. A. Mott of Rochester; M. H. Johnson, Utica; R. Wahle, Buffalo; J. F. Burns, Schenectady; A. Lyness, Albany; C. C. Miller, Oneonta; A. Lincoln Bush, New York City, and Hugo Tollner, Brooklyn.

James R. Strong, president of the Association of *Electragists*—International, and Farquson Johnson, secretary-treasurer of that association, were also present.

Mr. Bush, who was appointed temporary secretary, reported the preparations made by him as chairman of arrangements for the Executive committee meeting and also the Get Together Dinner to be held at 7 p. m. in the Yacht Room of the Astor.

The chairman in a very able manner set forth his ideas as to the functions of the State Association for the ensuing year, patterned after his recommendations made at Buffalo, New York, in July, 1921. All Executive Committee-men signified their willingness to support Mr. Mott's proposed plans.

Mr. Bush stated that the Independent Association Electrical Contractor-Dealers, which he represented, had by virtue of the amendments to their by-laws, agreed to support the State Association by paying three dollars per capita per year for its members for membership in the State Association. All other members of the Executive Committee, with the exception of Mr. Lyness, advised that the district they represented would support the proposed plan and Mr. Lyness stated that he would use his best efforts to get the Albany District, which he represented, in line.

After considerable discussion, it was regularly moved by M. H. Johnson and seconded by Mr. Wahle, that the present officers and committees be continued in office until the next annual meeting and that the chairman be empowered to appoint a permanent secretary for the Association, which was carried.

On a motion by Mr. Bush and seconded by Mr. Wahle, it was voted that the dues be three dollars per year in advance.

On motion by Mr. Tollner and seconded by Mr. Johnson, it was regularly moved that the secretary be paid fifty cents per member on collected dues, this compensation to be paid to the secretary quarterly. Carried.

On motion by Mr. Tollner and seconded by Mr. Johnson, it was regularly moved that the annual meeting be held between June 1st and November 1st, the place to be the same as that where the Division meeting of the International Association will be held in Pittsfield, Mass., for the year 1923, the time to be the day following the Division meeting. Carried.

On motion by Mr. Lyness and seconded by Mr. Wahle, it was regularly moved that the regular meeting of the Executive Committee shall be held once a year at the time of the annual meeting. Carried.

On motion by Mr. Miller and seconded by Mr. Wahle, it was regularly moved that we strike out from the bylaws that clause with reference to the printing and distribution of complete minutes of the annual meeting. Carried.

On motion by Mr. Miller and seconded by Mr. Wahle, it was regularly moved that extracts of the minutes of the annual meeting be sent to the members of the Executive Committee.

On motion by Mr. Tollner and seconded by Mr. Lyness, it was regularly moved that the entrance fee be waived. Carried.

On motion by Mr. Burns and seconded by Mr. Miller, it was regularly moved that constitution and bylaws committee be appointed consisting of Messrs. Strong and Johnson of the Association of Electragists—International and Bush of the State Association for the purpose of revising the bylaws in accordance with the motions made and carried at this meeting and to present said revised constitution and bylaws at the next annual meeting for adoption. Carried.

At the dinner meeting held in the Yacht Room of the Astor, Chairman Mott again outlined his ideas of a state organization. He said he had long advocated the very changes that have already taken place in the A. E. I., and that he believed direct contact between the local and parent body will bring the best results for individual members.

"But at the same time," he said, "we should have a strong state organization for the purpose of taking up state legislation and to promote harmony and good fellowship. The state association is very much alive in that respect as was evidenced by the splendid annual convention held at Mayor Miller's city of Oneonta last June."

Mr. Mott's sentiments were endorsed by other speakers who followed him, including President James R. Strong of the Association of Electragists, Wm. L. Goodwin of the Society for Electrical Development, Frank E. Watts of the *Electrical Record*, and others.

Your Help Needed

The proposed Manual on Residence Wiring will be a great asset to those members who are interested in this phase of our business. A preliminary issue of this Manual will be sent members as soon as sufficient data is available. Following this will be an interim report and by fall it is hoped that the data issued will have been carefully checked and additional information received so that the complete Manual can be published.

In order that the data collected may be readily comparable special forms have been prepared and are available to members without cost. These may be obtained from Headquarters or from Field Representative Arthur P. Peterson, who is in charge of this work under the supervision of the Cost Data Committee. His new address is 5010 Third Avenue South, Minneapolis, Minnesota. A special bulletin explaining the use of these forms will accompany those sent you.

Are you helping to make this valuable addition to the Electragist Data Book possible? Each member should arrange to keep record of at least three house wiring jobs. Some electragists, recognizing the tremendous importance of the forthcoming manual in their own work, have agreed to record at least ten jobs.

Results of El Paso Home

The home electric exhibition which closed recently in El Paso, Texas, resulted in the largest merchandise and appliance sales ever recorded in the history of the electrical industry in that city, according to the report of the El Paso Electric Coöperative Association, under whose auspices the show was held.

Sales included some of the larger appliances such as refrigerators and electric ranges. In addition the contractors of the city have felt an increase in business, one firm having received a contract to wire four houses in the same manner as the one shown.

A total of 10,982 people visited the house, which is a good percentage of El Paso's population of 80,000, sixty

percent of whom are Mexicans. Based on the attendance and total cost of advertising, the home was displayed at a cost to the Association of approximately two and one-fourth cents per visitor.

Penn State Meets

The eleventh annual meeting of the Pennsylvania State Association was held at Lancaster, Pa., on February 28th with eighty-two electragists and representatives of other interests in attendance.

A get together howdy luncheon at the Hotel Brunswick, addressed by Mayor Frank Musser and Isadore Rosenthal, an eloquent Lancaster attorney, opened the convention, and a dinner at the Stevens House enlivened with good spirits and entertained by humorous stories by Bob Cunningham of Philadelphia and a very witty address by Professor Frederick H. Gaige of the Millersville Normal School, were the entertainment features provided by the local committee under the direction of Paul Eshelman.

The afternoon session was devoted to an Electrical Open Forum, and besides formal reports from State Chairman R. W. Keck, who presided, and Secretary M. G. Sellers, reports were heard from each of the districts represented as to business conditions throughout the state.

The special committee on a proposed state licensing bill advised against presenting the bill before the present legislature, and their recommendation was adopted and the committee continued. Various other bills now pending which might affect the interests of contractors or other electrical bodies were discussed and referred to the legislative committee. Changes in the state association constitution and bylaws were adopted to make it conform to the plan in effect by the A. E. I., and the title of the former state chairman was changed to president.

A short talk was made by Arthur E. Towne, of the editorial staff of *Electrical Merchandising* on trade organizations with a brief history of the development of the Pennsylvania State Hardware Dealers' Association from a few hundred members to over two thousand members.

Laurence W. Davis, director of promotion and development for the Association of Electragists, gave a talk covering the big program of activities of the A. E. I. under way for 1923, and described the value and simplicity of the new Manual of Estimating issued by the Association. Mr. Davis used charts

in his talk on which were shown a proposed job of wiring a 6-story department store, and his audience was supplied with copies of the Manual and figured the labor costs as his explanation carried them through the various steps of estimating. This method of explaining the Manual brought many favorable comments on the value of the Manual in improving labor estimating.

The following officers and executive committeemen were elected for the ensuing year: R. W. Keck, Allentown, president; A. M. Cover, Pittsburgh, vice president; M. G. Sellers, secretary-treasurer; John E. Hess, Lancaster; W. T. Brown, Jr., Philadelphia; Fred R. Smith, Scranton; A. S. Prior, Williamsport, and John S. Musser, Harrisburg.

Washington League Formed

An electric league was formed in Washington, D. C., on February 23 which will bring together the public utilities, contractors, dealers, jobbers, engineers, manufacturers' agents and representatives, and others who are engaged in electrical work of that city.

According to H. P. Foley, who heads his own company in the nation's capital, the constitution and bylaws that were drawn up and adopted will permit of at least two hundred members. It is thought that such an organization will do much to uplift the electrical industry in the vicinity. F. T. Shull was elected temporary chairman, and George Colbeck, secretary and treasurer.

Lehigh Valley Show

The second annual Lehigh Valley Electrical Show will be held in the Manhattan Auditorium, Allentown, Pa., from April 3rd to 7th. All activities will be under the direction of the Lehigh Valley Association of Electrical Contractors and Dealers.

R. W. Keck of Allentown, chairman of the committee on booths and exhibitions, states that the show this year will be even a bigger and better one than was staged last year under the same auspices and at about the same time. Bob is confident that the show this year will prove a wonderful success every day in every way, and in a letter to Association Headquarters he invited the New York boys to be in attendance as many days as possible.

The officers and committee chairmen of the show are as follows: President, W. I. Litzenberger, Catasauqua; vice

president, R. J. Morrison, Bethlehem; business manager, E. H. Odenheimer, Allentown; chairman advertising and publicity, E. W. Weaver; chairman, booths and exhibitions, R. W. Keck; chairman interior decorations, A. Hausman, and chairman entertainment, P. C. Odenheimer, Allentown.

Electric Dinner Served

Los Angeles Domestic Science Teachers Enjoy Novel Party

Three hundred teachers of domestic science in the Los Angeles public schools on the night of February 27 were the dinner guests of the California electrical industries in connection with the coöperative industries' educational campaign in promotion of the use of electrical appliances in home cookery.

The dinner, most appropriately, was held in the home economics department of the *Evening Express* building where a most comprehensive display of electrical appliances is on exhibition.

Inspection of this exhibit, comprising everything electric from a waffle iron to the most elaborately equipped stove, with automatic time control and oven temperature adjustment, was one of the most interesting features of the evening's entertainment.

Mrs. Kate Brew Vaughn, director of the newspaper's home economics department, was the hostess, and served a dinner in which baked Virginia ham, sweet potatoes and green peas were the principal items.

The dinner was electrically cooked in the model kitchen over which Mrs. Vaughn presides and was of itself evidence of the efficiency with which culinary work in the modern home may be performed.

K. E. Van Kuran, president of the Los Angeles Electrical Club, and vice president of the California Coöperative Electrical Campaign, was toastmaster.

The principal speakers were: E. F. Scattergood, chief electrical engineer of the bureau of power and light of Los Angeles, who spoke on the "Electrical Future of Los Angeles"; R. L. Eltringham, who had for his subject "The Electrical Home of Today and Tomorrow"; Mrs. Kate Brew Vaughn; Milton Henoeh, heating appliance specialist of the Westinghouse Company, and Miss B. E. Galvin, home appliance specialist of the Edison Electric Appliance Company, the latter two speakers devoting their attention to "The Art of Cooking—Electrically."

New England Group Action

Contact Committee Formed Through Which All Interests Are Reached

Joint action on the part of New England interests was definitely established through the formation of a Contact Committee which resulted from an executive committee meeting of the New England Division of the National Electric Light Association. Members representing the respective branches are: F. S. Price, jobbers, chairman; A. J. Hixon, contractor-dealers; C. B. Burleigh, manufacturers; F. A. Belden, central stations, and C. E. Greenwood, Joint Committee for Business Development.

This is the result of plans of the Joint Committee for Business Development to further coöperative work in all parts of the country through the best method of procedure that local interests see fit to adopt. It is expected that the work of the Contact Committee will establish local committees throughout the territory which in deciding the next development step to be taken will mean the creation of a permanent local committee, a luncheon club, or a local league.

Letters were sent by Chairman Price to all members of each branch including Class A members of the N. E. L. A., nonmember central stations, municipal plants, jobbers, jobbers' salesmen, manufacturers, in addition to contractor-dealers, setting forth the plan of the Contact Committee and soliciting the close coöperation of all. The letter to contractor dealers follows in part:

In the electrical industry business development is not a new movement. In a national way part of the industry's development program has been carried on for years by The Society for Electrical Development but the very necessary local link has been largely lacking. This local link is now being supplied in the form of local leagues. Many of these local leagues have been functioning successfully for several years. It is not intended to nationally attempt the direction of campaigns and efforts, but rather to urge each local section to formulate its own plans and to accomplish the desired result—more complete electrical development—in its own way.

Hence the formation of the New England Contact Committee. This committee is planning to direct its efforts toward securing the establishment of active local committees throughout New England. Such local committees, after

study of their own local conditions, are to determine upon their next step in this development movement—whether it be the creation of a permanent local committee, a luncheon club, or a local league.

A letter has been sent to the central station management in your city urging it to nominate a man to study this question, to confer with representatives from the other branches of the industry in your community, and to get started a local committee along the lines outlined above. This letter is written for your information and to request your personal cooperation in securing the formation of your local committee.

Through the Society for Electrical Development necessary facilities are provided by way of literature, information and other helps to aid in preparing plans and then in carrying them out. The ultimate goal of course is to bring into being in the larger communities electric leagues or clubs and in the smaller communities at least a local contact committee, each with a useful program aimed to promote the main object.

When you come to the point of organizing an electric league or of meeting to discuss the advisability of such a move, the chairman of the New England Contact Committee can upon request arrange for a representative of the Contact Committee or of The Society for Electrical Development to assist by sitting in with the local committee at the proper time, giving information covering formation and operation of a league, together with methods used and results obtained in other sections of the country.

The Contact Committee feels that plans should proceed not hastily but surely. We therefore request that you confer with the other contractors and dealers in your community and then with the central station management to the end that an active local committee may be set to work as soon as possible.

Jones As State Architect

Sullivan W. Jones, formerly editor of this magazine as the ELECTRICAL CONTRACTOR-DEALER, has been appointed by Governor Smith as state Architect of New York. His duties in this capacity were taken up on March 1, and he succeeds Louis F. Pilcher of Brooklyn.

Readers of the National Electragist will welcome this announcement and

will wish him every success in such an important undertaking. It is thought that the governor was particularly influenced in his decision on account of the fact that Mr. Jones was the designer of the State Educational Building in the state capital which is noted for its beauty and reasonable cost of construction.

Mr. Jones was graduated from the Massachusetts Institute of Technology in 1900. He was formerly a member of the architectural firm of Palmer, Hornbostel & Jones. Among the important buildings designed by this company are the Carnegie Institute of Technology in Pittsburgh, the City and County Building in Pittsburgh, several Northwestern University buildings at Evanston, Ill.; the City and County Building in Wilmington, Del., and the Queensborough Bridge in New York City.

Mr. Jones is technical director of the American Institute of Architects' committee on structural service. He has been engaged in examining building materials and advising architects throughout the country. He is an expert on building materials, contracts and specifications for buildings.

He is a member of the Architectural League and of the New York Chapter of the American Institute of Architects. He is also a member of the central committee on lumber standards and of the board of governors of the American Construction Council.

New Officers Elected

The newly elected officers of the Wisconsin State Association of Electragists are as follows: L. G. Ross, Superior, chairman; H. M. Northrup, Milwaukee, secretary; and J. L. Acker, Sheboygan, treasurer. The members of the executive committee are: J. P. Josephson, Kenosha; L. W. Burch, Madison; C. L. Kehl, Green Bay; George Spiegel, Clintonville; and A. C. Froderman, Milwaukee; in addition to the officers.

On South American Vacation

C. C. Bohn of New York City electragist fame it is announced is enjoying an extended vacation in South American territory. He is accompanied by his wife who has been advised to take such a trip for her health.

Mr. Bohn is well known in New York City electrical circles and is highly esteemed for having carried on such a

successful contractor-dealer business for many years. His company is a member of the National Association of long standing and he has been intimately associated with the work of that body since affiliating with it.

At New Location

The L. F. Myers Electric Shop, formerly at 120 East Market Street, Warsaw, Indiana, is now located at 203 West Center Street, that city, next to the gas utility company. As a progressive electragist this move is made in the interests of better store arrangement which will result in better customer service. A prominent notice and announcement was made of this change of location in the local newspapers suggesting the reliability of the company and urging readers to shop at its new store.

Electric Home in Pawtucket

Plans Formulated at Rousing Get Together Meeting of R. I. League

On February 23 the Rhode Island Electrical League held a meeting in the club rooms of the Blackstone Valley Gas and Electric Company, Pawtucket, R. I., for the purpose of stimulating interest among the Pawtucket contractors and dealers in the electric home, the second one to be conducted by the League, projected for the latter part of this month. This meeting was very well attended and argued well for the success of the home.

H. E. Dawson, secretary of the League, presided and introduced the first speaker, J. E. Bullard as a man who had written much on the subject of cooperation and would tell those present of the importance of cooperating.

Calling attention to the great change that has been taking place in marketing conditions during the past seventy years, Mr. Bullard explained that until within recent years demand has exceeded supply. It has been necessary therefore to increase and to speed up production to meet this demand.

For example up to the time of the Civil War all lumber was seasoned out of doors. It was cut and sawn and then piled in sheds or out of doors and allowed to dry slowly. After the Civil War, however, the demand for lumber became so great that it was impossible to meet it with this slow process, and kiln drying was developed.

The same process of speeding up and increasing production has been going along in all lines until today we have a

productive capacity greater than the demand. This productive capacity has been estimated as being from twenty to forty percent greater than the purchasing power of the people.

This means much keener competition for the money the people have to spend. It means that the competition is between industries rather than between different concerns in the same industry. It means that the people as a whole have but say eighty cents to spend for every dollar's worth of merchandise or service to be sold, and that the industries best organized to persuade them to spend money are the ones that are going to get the dollars.

As an example of what coöperation can do, Mr. Bullard compared the New England farmers with those of the Pacific Coast. The New England farmer is not a coöperator and never has been. He is inclined to distrust his neighbor because he does not get together with his fellow farmers often enough and does not work with them. As a result the New England farms are being abandoned. New England farming doesn't pay.

But some of these New England farmers went out on the Pacific Coast. Perhaps when they got there and were among strangers they were lonely and for this reason got together. At any rate the farmers on the Pacific Coast have gotten together and have coöperated and what has been the result? They are shipping carloads of apples back east. These apples pass right through territory where apples are rotting on the ground. They come here and we buy them. Even some of these farmers who have abandoned farms on which they might be able to raise even better apples are buying them.

These western farmers are selling what they produce not because they are producing something better but because they are coöperating and putting greater selling force behind what they have for sale. If the eastern farmers would do the same thing, they would have no difficulty in selling all they can produce and in making farming profitable.

Mr. Bullard mentioned the fact that before the raisin growers of California began to coöperate they experienced difficulty in keeping the crops small enough not to leave a surplus, while since they have begun to coöperate the problem has been to raise enough to meet the demand.

In Providence some years ago the

laundryowners were not coöperating. They were trying to cut each other's throats. Then when conditions became so bad that not one could make any money, they got together and began to coöperate. As a result they have been able to give the people better and cheaper service than they have ever been able to give them before and have been able to increase their business many times.

This has a direct bearing upon the electrical business because it is apparent that if the laundries persuade all the people to send all their washing to the laundry there will be no market for electric washing machines. Also if the laundries work together and every laundryowner impresses upon the people that all laundries are good laundries while the electrical men try to cut each other's throats and tell the people that the only good electric washing machine on the market is the one they sell, then it is apparent people are going to patronize the laundries more and the washing machine dealers less. It is a matter of coöperation. In this case it is not a matter of competition between the different dealers but competition between the electrical industry and the laundry industry. The industry in which there is the closest coöperation is bound to be the industry that wins.

The speaker spoke of the automobile industry as one which had accomplished wonders through coöperation. It has persuaded people that they must have an automobile even though they have to go without other things. A certain hat manufacturer made a careful investigation to learn why men were not buying more hats and caps. This manufacturer found that the men needed the money for gasoline and tires that should have been spent for hats, neckties, collars, shirts and the like. This is a specific example of how competition works between different industries. People haven't enough money to buy all that is offered for sale to them so they buy that which they are made to desire most, and they desire most that which is backed by the coöperative sales effort of all the people in the industry.

He called attention to how coöperation in the medical profession had resulted in protecting us against quacks, and giving us much better medical service and made it unnecessary for the honest capable physician to compete with the unscrupulous and incompetent men who took up the practice of medicine without adequate preliminary

training and because they thought they could make money easier posing as doctors than they could in any other way. What has been accomplished along these lines can also be accomplished in the electrical industry if there is sufficient coöperation.

Following this talk Mr. Dawson explained the plans for the Pawtucket electric home. The house has been secured and will be ready by the latter part of April. The furniture has been arranged for. The money has been budgeted and the only expense to the dealers and contractor to take part in the home is to pay their dues, if these have not already been paid.

He explained that the local newspaper had promised to coöperate and to publish a special electric home section. He estimated that there would be an attendance of at least 10,000 people at the home, and that at least 1,000 Pawtucket people attended the home conducted in Providence last fall. As a matter of fact it was a Pawtucket girl who won the first prize of the series of prizes offered at that home.

Charles Hilton of the Blackstone Valley Gas and Electric Company said that he thought Mr. Dawson had estimated too small an attendance at this home. He felt sure that there would be just as large an attendance at this home as there was at the Providence home. It is on a main automobile highway and is easily reached from two car lines, with good car service, whereas the Providence home was in a location reached by only one car line with twenty minute service. Mr. Hilton felt sure there would be at least 26,000 people at the home.

The house secured is a model eight room cottage and is being rewired and fixtures of a type sold by all the contractors are to be installed.

Mr. Dawson next called attention to an Electrical Week that is to be held shortly after the close of the electric home. Features of this week will be special house wiring offers by the central stations, the contractors to do the wiring, special jobber's coupons which will entitle purchasers of appliances to discounts at no cost to the dealer, special sales by the fixture houses, special advertising and two essay contests.

One essay contest will be open to the public and will be on the subject of "Electric Service in My Home." The other will be confined to electrical men and will be on the subject of the con-

venience outlet and its use in the home. A radio set has already been secured as a prize for this contest.

At the close of Mr. Dawson's remarks, Mr. Hilton spoke of the increase in business during the past year and how he planned to have more men working to secure house wiring contracts for the contractors during this year. An indication of how coöperatively those present were feeling at the end of the meeting is that after they had all agreed to back the home to the limit and had appointed a committee to work with Mr. Dawson on it, they also appointed a committee to formulate plans which would make it possible to coöperate to a greater extent with the central station in securing house wiring contracts.

The meeting was scheduled to close at ten but so much enthusiasm had been aroused on the subject of coöperation and so much new coöperative work was gotten under way that it was with some difficulty that it was closed at eleven o'clock.

Winnipeg Plans Convention

A one day convention will be held on April 18 by the Electrical Contractor-Dealers Association of Winnipeg. Papers and discussions are to be included on the program for the afternoon. After the dinner at six o'clock the evening will be devoted to an address, "When is an Electragist Successful" by Arthur P. Peterson, a representative of the Association of Electragists, Central Division.

Mr. Peterson has been in charge of the work of collecting data for the Residence Wiring Estimating Manual soon to be issued by the A. E. I., and he is in a position to present interesting statistics in this connection. He will endeavor to have on hand charts covering an analysis made by the department of promotion and development of the Association of actual statements made by twelve representative electrical contractor-dealer businesses on the cost of doing business. The total business of these concerns range from \$13,000 to \$120,000.

This talk by Mr. Peterson should prove not only interesting but valuable in showing actual business performances of firms doing work that is representative of almost every territory in the country. R. N. Elgar, secretary of the Winnipeg Association looks forward to a well attended convention and announces his belief that all who come

will be gratified at the success of the meeting.

Recently elected officers of this Association are: President, W. A. Straith; vice president, W. Sibbald; secretary-treasurer, R. N. Elgar; directors, H. Matthews, J. H. Schumacher, A. McKenzie and J. Russell.

Progress Noted in Quebec

Reports from Montreal indicate that since the midwinter meeting of the Quebec Association of Electrical Contractor-Dealers held in that city as set forth in these columns last month, a promotion of the work in this branch of the industry has developed. Secretary Louis Kon is busily engaged in the affairs of the Association in which members are taking more and more of an active interest.

The new officers of the Quebec Association of Electrical Contractors and Dealers are as follows: Honorable president, N. Simanau; president, L. A. Mace; vice president, William Rochon; treasurer, R. Muir; secretary, Louis Kon; directors, T. A. McQuaig, H. Vincent, E. Hodge, M. M. Pelletier, H. Truchon, and C. E. Barrett.

Vancouver Development

Gratifying Condition in This Part of Canada Reported by Electragist

The tide of Association affairs in Vancouver is showing a material improvement, in the opinion of Douglas J. Metcalf, a progressive electragist of that city and chairman of the newly appointed promotion and development committee of the British Columbia Association. In a recent report to National Headquarters Mr. Metcalf made the following statements:

Our biweekly meetings are being attended by at least ninety percent of the membership and the enthusiasm that is being displayed by all is due largely to the efficient manner in which President Earl Jarvis is conducting the work of the Association. He has organized the boys in such a way that he has us all working on various committees, the younger members included along with the old standbys. A program of partial activities has been mapped out, and in allowing the various committees to carry the work on in their own way all apparently are working with vim and enterprise in benefit not only to the members themselves but to the body collectively.

Percy Letts in his enthusiastic reports

about the last annual convention of the Association of Electragists at Cincinnati has given a great amount of impetus to the work of members at large. All such reports are keenly interesting.

There was little Association activity previous to the new year as compared to now with regard to meetings, but now the committee work is functioning so well and is productive of such good results that it is gratifying to all concerned.

A large building construction program is in prospect, all of the large enterprises both governmental and private having been laid out so that they may be considered by everybody interested. It is hoped that the dangers of price cutting in this connection are now so thoroughly understood that nobody will think of entering into such disastrous practice.

The new year started with a rush of good fellowship on the part of the local boys and one of the first activities was to form what might be called an Electragette Auxiliary. This is an organization of the wives of electragists who help to wind up meetings with a social entertainment, which is thoroughly enjoyed by all.

Among the new activities is the conduct of a window lighting campaign under the auspices of the Service League committee and a provincial act on electrical inspection which it was expected would become effective April 1. This act is of great importance as it will if passed standardize the bylaws of all municipalities through the province as well as give the chief inspector jurisdiction over all municipal inspectors with power to reject substandard material.

I have been given the job of looking after the social and educational committee work by President Jarvis and other local boys helping me are Row Wallace, Dicer and W. W. Fraser. The work of this committee is along the line of that covered by the department of promotion and development of the A. E. I.

In my opinion the activities of the latter committee will be of great benefit to local associations throughout the country and I would suggest that bulletins be sent out to committees similar to the one of which I am chairman so that coördinate lines of thought can be advanced collectively thereby tying in with Headquarters' advertising and working also in conjunction with campaigns of the Society for Electrical Development.

U. S. Chamber to Meet

The eleventh annual meeting of the Chamber of Commerce of the United States will be held at the Waldorf-Astoria Hotel, New York City, May 8-10. L. K. Comstock of New York City was elected to represent the Association of Electragists as national councillor of this body and in the event that he is unable to attend this meeting an alternate will be appointed to represent the Association in his place.

It is announced that ten delegates from the A. E. I. including the national councillor are entitled to representation at this meeting and all members who are desirous of attending are urged to advise Association Headquarters on receipt of this notice.

Starts Own Business

J. L. Wolf of Cleveland, for some time secretary of the local Lighting Fixture Dealers Society in that city and past secretary of the Lighting Fixture Dealers' Society of America, has resigned to begin his own lighting company, to be known as The Wolf Lighting Company. Mr. Wolf's present plans include a mail order business in model lighting fixtures.

Commenting on Mr. Wolf's action the journal of the Electrical League of Cleveland, *The Leaguer*, says: It can't be that the fixture dealer has no chance of eeking out an honest living. Julian Wolf, who has spent some of the best years of his life figuring fixture overhead and all that, is going into the retailing game and expects to buy his home in the classiest part of the town within a year's time.

Allegory of Lights Unveiled

Bronze Group at Nela Park Considered First Sculpture of its Kind

Last January an allegory in bronze representing the triumph of light over darkness was unveiled at Nela Park, Cleveland—the headquarters of the National Lamp Works of the General Electric Company, but news of the unveiling was only recently released.

The bronze group represents the climax of eleven years of work by Frank C. Wallis, Nela Park architect, in developing the Nela Park works into a manufacturing plant of peaceful and attractive surroundings in contrast to the ordinary grimy workshop.

Robert I. Aitken, New York sculptor, was commissioned three years ago to make the bronze group. Mr. Aitken is

president of the National Sculpture Society and the recipient of numerous prizes and medals of honor for his work in architectural sculpture, including the work which he did for the Panama-Pacific International Exposition.

The group represents what is believed to be the first investment of an American factory management in sculpture to signify the meaning of its business, and one of the first efforts to express in sculpture the meaning and power of modern industry.

The bronze group as shown is an allegory of four figures, two semirecumbent figures—one a male and one a female—of athletic build, inclined toward each other. Each bears at arm's length a torch. The flames from the two torches blend and form the culminating point of the work, toward which



The Bronze Allegory Representing the Triumph of Light Over Darkness

one's eye is naturally drawn by following the lines of the figures with their torches.

Coffin Foundation Award

The first award to be made under the Charles A. Coffin Foundation established by the General Electric Company will be announced at the annual convention of the National Electric Light Association in New York City, June 4-8. This award in recognition of, and to encourage, special service in the electrical industry is to be made yearly to the public utility operating company within the United States which during the year has made the greatest contribution to the development and general use of electric light and power by the public in benefitting the industry.

All statements in connection with en-

tries for 1922 were to have been in the hands of the prize committee by March 15. Every electric light and power company in the United States was invited to participate and urged to send to the committee a presentation of its activities and accomplishments covered by the field of the award.

The committee suggested that among the factors which will be considered in making the award are the following: The particular initiative, skill and enterprise which has been manifested in popularizing the general use of electrical energy; accomplishments in the development of the efficiency of the individual organization; improvements in construction practice which has resulted in greater reliability of service; marked increases in the efficiency of generation and distribution; the adoption of special plans which have resulted in the largest percentage of increase in new customers; methods adopted of interesting customers in stock ownership; unusual efforts and accomplishments in popularizing and introducing domestic appliances; and the extension of service to homes not previously wired and to rural communities.

Moves Into Own Building

On March 1 the American Electrical Supply Company, jobbers, moved into its own building in Chicago at 117 South Morgan Street. This company was formerly located at 953 Washington Boulevard, that city.

According to an announcement by E. H. Ames, salesman, the growth of the company, due to the adoption of a policy of sound business principles in the beginning and never deviating from this rule, has necessitated such a change. The new building is so constructed and arranged that maximum efficiency is assured at all times.

Radiant Heat—And 12 Hours

If you had happened to be on Forty-second Street, New York City, early in March, wrote Roger Williams, branch manager of the Simplex Electric Heating Company, on the 8th, it would have paid you to look in the Edison show window at 124 West. For there, he said, had been placed the giant radiant heater, written up in these columns recently when demonstrated on an automobile truck, so that it threw its rays straight out through the window pane.

This is the first time that anything like this has ever been tried, in the

opinion of Roger W., and how long the glass would last he did not know but it had stood the gaff for twelve hours before he started to dictate the press notice about it, anyway, he said.

Course Given in Metering

A course of lectures, discussions and laboratory meter practice for men employed in the meter departments of electric utility companies was held in the latter part of March by the extension division of Syracuse University.

The complexity of modern electrical practice and the desire of public utility companies for technical training of their employees produced the demand for this course in the theory and practice of metering.

Leases Half of Skyscraper

The Westinghouse Electric & Manufacturing Company recently leased for a period of ten years twelve floors in a new twenty-three story bank and office building to be erected at 150 Broadway, New York City.

The building will be known as the Westinghouse Building. The space leased comprises between 90,000 sq. ft. and 95,000 sq. ft., and the amount of money involved in the lease is in excess of \$3,000,000.

Unique Club Formed

Membership is Decided by Electric Rating of Own Homes

As a part of the Electrify movement which is being fostered by the Joint Committee for Business Development, employees of the Edison Electric Illuminating Company of Boston have organized an Electrify Club, membership in which depends upon the degree of electrification in the homes of the employees. There are five officers, a president and four vice presidents, and these are determined by the extent to which they have electrified their homes. There are no dues, meetings, or obligations of any kind.

Electrification is measured in terms of points and only those having a rating of at least 80 points are admitted. The minimum was raised from 75 on February 1. So many points are given for outlets, appliances, etc., and in order to give those living in small houses the same opportunity as those occupying larger quarters, the wiring points are credited on the real estate basis. All consumption outlets, save switch outlets, are termed outlets no matter where they

are placed. A chandelier counts as one outlet, and so do convenience outlets, cellar lights, porch lights, hall lights, bell ringing transformers, etc. Bathrooms, halls, cellars, closets, etc., do not count as rooms, but the outlets in these places are considered.

The points are arrived at in this manner:

Wiring: Add all outlets, giving each a value of one except duplex convenience outlets, which are counted as two; divide by the number of rooms and multiply by 10. Thus a seven-room house with 21 outlets would have 21 divided by 7, or three outlets per room, receiving a point score of 30.

Appliances: The following appliances are listed at one point each, and where there are two or more of any one kind, no more than two are counted. Buffer and grinding set, Christmas tree set, cigar lighter, coffee grinder, curling iron, egg mixer, electric fan, electric phonograph motor, electric player piano, glue pot, hair dryer, heating pad, sewing machine, soldering iron, vibrator, violet ray machine, and any other appliances consuming less than 300 watts and not included elsewhere in the list.

The following count two points each, not more than two being counted: Chafing dish, egg boiler, immersion heater, grill, milk warmer, pressure cooker, samovar, shaving mug, toaster, waffle iron, and any other appliances taking more than 300 and not over 600 watts.

The following count as two points each, and as many as three may be included: Flatirons and radiators of the sunbeam type.

The following count as five points, and only one may be counted: Electric ice cream freezer, electric fireless cooker.

The following count ten points, and only one is to be counted: Washing machine,

vacuum cleaner, dish washer, mangle with electric motor but not electrically heated.

The following count 20 points each and not more than one may be counted: Electric range of over 1,000 watts, electric refrigerator, electric mangle with electric motor and electric heat.

The following count according to size: Portable or table lamps, one point for each socket; electrically wired furniture, such as wired beds or tables, count one for each socket or convenience outlet.

Each month additional Boston Edison employees are enrolled in the club, and there is much enthusiasm shown by those who are anxious to join and those who want to see their point total grow larger. Increased sales of appliances to employees have resulted from the activity. The organizers of the club were L. R. Wallis, sales department; C. E. Greenwood, appliance department, and R. S. Hale, special research department.

Midwest N. E. L. A. Meets

The annual convention of the middle west division of the National Electric Light Association will be held at St. Louis, Mo., on Wednesday and Thursday, April 11 and 12 and the morning session on Thursday will be largely devoted to the work of the Joint Committee for Business Development.

A representative of the Joint Committee will present the Electrify subject. The discussion following the address will be led by H. F. Week, Davenport, Iowa, and W. S. Byrne, Omaha, Nebr.

Changes Office Quarters

The Texas Power & Light Company, Dallas, Texas, recently completed the reconstruction of its offices at Sherman, Denison, Taylor, and Sweetwater, Texas, carrying out the policy advocated by the Joint Committee for Business Development of having central stations provide the best possible accommodations for their patrons, both for transactions in the business end and for the merchandising of appliances.

Spring Cleaner Contest

A spring Housecleaning Sales Contest to last from April 2 to June 2 is announced by The P. A. Geier Company of Cleveland. No entries will be received after May 1, and the contest is limited to one thousand enrollments. Prizes will be awarded under the following conditions:

1. A Royal cleaner and attachments free for each twenty-seven Royal cleaners sold during the contest.
2. All who sell one hundred cleaners or more during the contest will receive an extra



The Pretty Kipp—Somebody Called Her That—is Miss Mildred DeLong Who Represented the Denver Gas and Electric Company at the Recent Industrial Exposition in That City. She Was Known as the "Electrical Princess"

cleaner and set of attachments for each twenty-seven sold.

3. The salesman selling the highest number of sets of attachments with cleaners will receive an extra cleaner and set of attachments, in addition to money prize.

4. A cleaner and set of attachments will be awarded each week of the contest for the largest number of cleaners sold. Entrant may receive weekly prize but once.

5. In addition to the awards of cleaners, there are fourteen cash prizes.

News Notes Concerning Electrical Contractor-Dealers

Business Changes, Store Improvements, and New Establishments Opened

Rhyme Electric Company, 135 North Broad Street, Trenton, New Jersey, will move to larger quarters at 119 Broad Street, where an electrical appliance and contracting business will be conducted.

Industrial Electric Company, Incorporated, has established headquarters at 505 Exposition Building, Dallas, Texas. Incorporated capital, \$10,000.

Le Roy Electric Company is locating at 13 West Main Street, Alhambra, California, where a complete line of electrical and radio supplies will be carried.

Rusmisell Electric Company will conduct an electrical supply business at Princeton, West Virginia. Incorporators: Hal P. Harmon, Princeton, and others. Incorporated capital, \$10,000.

Bar-Thorpe Electric Company has opened an electrical supply store at 918 Commerce Building, Kansas City, Missouri.

Granite State Electrical Supply Company will feature an extensive line of electrical merchandise at Kittery, Maine. Incorporators: P. J. Rossiter, president, and others. Incorporated capital, \$10,000.

Southern Electric Supply Company, formerly located at 557 Whitehall Street, Atlanta, Georgia, has moved to 81 Marietta Street. A complete line of electrical supplies will be handled.

Harten Sales Company has established headquarters at 65 East Chestnut Street, Columbus, Ohio, where a full line of electrical supplies will be featured. Incorporated capital, \$10,000.

Lane Electrical Company is reported to have opened an electrical appliance store at 467 Union Avenue, Paterson, New Jersey.

Aylworth-Pardee Electric Company is locating at Inglewood, California. Incorporated capital, \$10,000.

Southern New England Engineering Company has established headquarters at 103 Allyn Street, Hartford, Connecticut. An extensive line of electrical appliances will be handled.

White-Cotton Electric Company is opening a new electrical supply store at Henderson, North Carolina. Incorporators: H. P. White, Henderson, and others. Incorporated capital, \$10,000.

Columbia Electric Company will improve electrical supply and contracting business at 1109 Pine Street, St. Louis, Missouri, by enlarging headquarters and increasing stock.

Interstate Electric Company is featuring a full line of electrical supplies at new store of which John T. Fitzsimmons, 357 Pierce Building, St. Louis, Missouri, and others are incorporators. Incorporated capital, \$20,000.

Morrison Electric Company, formerly in the electrical appliance business at 105 Summit Avenue, West Hoboken, New Jersey, will locate at 1211 Summit Avenue, Jersey City Heights, New Jersey.

Universal Lighting Fixture Company has established headquarters at Reading, Pennsylvania. Incorporators: Harvey H. Hollenbach, 1415 North Ninth Street, Reading, and others. Incorporated capital, \$20,000.

C. W. Huggins, successor to the Young Electrical Company, North Commercial Street, Trinidad, Colorado, will continue to conduct an electrical supply business.

Quality Electric Works, at present located at 416 East Third Street, Los Angeles, California, is erecting a two story building at 812 South San Pedro Street and will occupy same when completed. An extensive line of electrical supplies will be handled.

Hohman & Hill, Inc., has opened an electrical contracting business at 1900 Southport Avenue, Chicago, Illinois. Incorporators: Frank J. Hill and others. Incorporated capital, \$25,000.

B. L. Radio Company of which J. L. Butler and E. H. Lines are proprietors, will locate at 31st Street and Troost Avenue, Kansas City, Missouri, where an electrical and radio supply business will be conducted. Formerly at 10 East 16th Street, Kansas City.

Crown Electrical Supply Company has established headquarters at St. Louis, Missouri. Incorporators: Attorney P. Perner, 620 Rialto Building,

St. Louis, and others. Incorporated capital, \$30,000.

Nowak Electric Company, Incorporated, is opening an electrical appliance business at Buffalo, New York. Incorporators: Jos. J. Nowak, 1255 Broadway, Buffalo, and others. Incorporated capital, \$50,000.

Conger & Harris Electric Company will feature electrical supplies at new store, Woodland, California.

Guy Schweer Electric Company, in the electrical supply business at East Franklin Street, Clinton, Missouri, is adding a radio supply department.

Nelson Electric Corporation of which J. H. Nelson, 1447 West 82nd St., New York City, and others are incorporators, will handle an extensive line of electrical supplies. Incorporated capital, \$50,000.

Drover Electric Company is open for business at 4645 South Halsted Street, Chicago, Illinois.

Detweiler-Bell Company will conduct an electrical appliance business at New Haven, Connecticut. Incorporators: G. Detweiler, Rimmon Road, Woodbridge, Connecticut, and others. Incorporated capital, \$50,000.

Bolivar Radio & Electric Company of which H. B. Marshall is manager, has been accepted as distributing agent for the Westinghouse and Western Radio Company products.

Dodge Electric Company, and electrical supply business at Tulsa, Oklahoma, has increased capital from \$75,000 to \$100,000.

Marih Electric Company will locate at 512 Sixth Avenue, San Francisco, California, where a complete line of electrical appliances will be carried. Incorporated capital, \$75,000.

Southern New York Electrical Supply Corporation has established headquarters at Binghamton, New York. Incorporators: H. A. Yetter, Press Building, Binghamton, and others. Incorporated capital, \$50,000.

Torrington Shop will feature an extensive line of electrical appliances at Fourth and Madison Streets, Memphis, Tennessee. Estimated worth of concern, \$100,000.

The Electric Shop, Incorporated, has established headquarters at Rocky Mount, North Carolina. Incorporators: W. H. Horne, Rocky Mount, and others. Incorporated capital, \$100,000.

"As Profitable as Good Window Lighting"



Show Cases
Minneapolis
General Electric
Co. lighted with
X-Ray Scoopettes

SHOW CASE LIGHTING WITH **X-Ray Scoopettes**

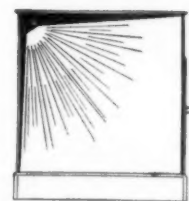
"Standard for Show Case Lighting"

Progressive merchants demand good window lighting—
It's profitable for them and you, too!

Because Show Cases are miniature show windows inside the store,
merchants can sell Scoopettes readily.

Why?

1. Scoopettes require 25% to 40% less electricity because standard 15 or 25 watt (G-18½) bulb, standard base lamps are used.
2. Scoopettes add to the *appearance* of any case.
3. Scoopettes come in handy, standard packages from your Jobber's stock so that a quick and easy installation can be made for the merchant.



Scoopettes confine all
the light within the
show case

Ask for a copy of Booklet 398, telling how and why your Jobber carries them so
that you can make rapid turnover and realize profits!

National X-Ray Reflector Co.

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Engineers in all Principal Cities

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Formerly National Association of Electrical Contractors and Dealers

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*Deceased.

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ANNUAL CONVENTION, WASHINGTON, D. C., WEEK OF OCTOBER 8, 1923.

The Black Dotted Line



Look for the black dotted line on the interior surface of the Loom you buy, so that you may be sure you get the genuine

DURADUCT

with its roller-bearing wireway and single wall.

Look for this same black dotted line on the inner surface of the cover on the portable cord you buy for heavy duty. In this way, you assure yourself of a long wearing economical cord,—

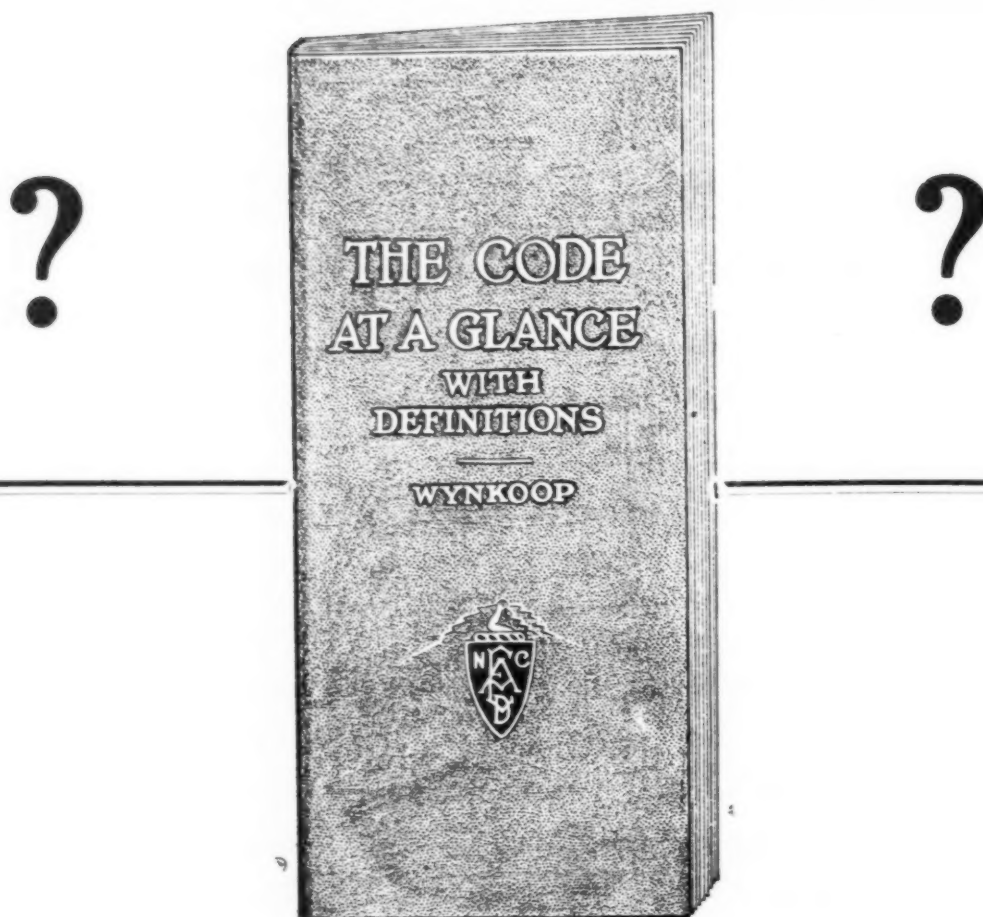
DURACORD

The mark of Quality in "Loom" and heavy duty portable cord is



The Black Dotted Line

TUBULAR WOVEN FABRIC CO.
PAWTUCKET, R. I.



Prehistoric Questions

THIS is a story about questions. You have them—everybody has them. Questions are as old as the hills. They were asked in the day of Adam and before that prehistoric man developed special nods of the head to satisfy his desires in asking questions. But what has this to do with the *Code at a Glance*? Just this: There are more questions being asked now concerning things electric than ever before. You have been called upon to answer some of them yourself. And in the future your answering will be more frequent and precise. It will have to be! For the public is demanding more electrical knowledge and you are the one to give it because of your direct consumer contact. That means you **MUST** know the National Electrical Code and enforce it. And the *Code at a*

Glance answers your questions concerning that. Requirements are tabulated in A.B.C. order. You don't have to look in a dozen places or so for the information you need—as you do in the Code itself. Finding just the point you want is made as easy as looking up a word in Webster's. The book—handy pocket size—also contains Code Definitions that clearly explain the many puzzling requirements, as when a person is "authorized," "competent," "qualified"; whether a spring hinged door is automatic, and all such. And it is sent to you postpaid for only a dollar bill. You are missing many a good dollar's worth by being without it. Send for a copy today, and be prepared to answer the next question you run up against concerning the Code.

The next National Electrical Code will not be ready for general distribution until after the middle of 1923

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15 WEST 37th STREET

ROOM 602

NEW YORK CITY

ORANGEBURG FIBRE CONDUIT

*For central station
and sub-station inside runs*

Advantages of Fibre Conduit

Protection—Fibre conduit resists water and gas seepage; provides a concrete barrier between all cables; and offers the smoothest cableway.

Permanence—No ordinary hazard can seriously reduce the protection of fibre conduit.

Easy Installation—The simplicity, lightness, and flexibility of Fibre Conduit make it easy to install.

Inexpensive—The low cost, extremely low handling charges, and ease of installation of Fibre Conduit keep down the investment.

HERE, where dependability is a paramount consideration, floor and wall runs of Orangeburg Fibre Conduit insure the greatest protection for distribution and control cables.

Burn-outs can affect only the cable on which they occur, because each duct is separately encased by the concrete in which it is laid.

The cableway can always be kept open, for even a burn-out severe enough to destroy the fibre will leave the concrete bore smooth and unharmed for the new cable.

Fibre Conduit will not rust, nor will it fuse to the cable. It is easy to install—cut lengths and bends of any radius are shipped ready to fit.

Approved by the Underwriters' Laboratories, Inc.

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Do you know that—

Every hundred Kwikon "No-Bolt" Fixture Studs you use will save you more than \$2.00 in labor costs alone.

"No-Bolt" Studs cost no more than old fashioned Hickey Studs with bolts.

They are quickest and best fixture supporting device every developed,—particularly suited for conduit work.

They provide the most substantial support, one that can't possibly work loose or hang crooked, yet "No-Bolt" Studs can be installed in less than 1/5 the time required by any other type.

"No-Bolt" Studs take up much less room in the box.

A Kwikon Quality product,—carefully made of the best materials,—every one will fit perfectly and give complete satisfaction.



Pat. Feb. 18, 1919.

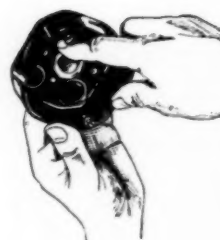


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Just two moves—



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back of the box—



run up the
locknut, and
its done.

Here's
your cost—

	Lots of 100	Lots of 1000	Lots of 5000
3/8-inch Open Type-----	\$3.85—C.	\$32.50—M.	\$31.00—M.
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All prices include one clamping nut per Stud, F.O.B. Chicago, Ill.

Your supply jobber will gladly serve you from his local stock at the above prices (plus transportation charges). If not, send us his name and the quantity you desire.

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*Bring
Electricity
to your table*

Here is the new Electrical Convenience Everybody wants!

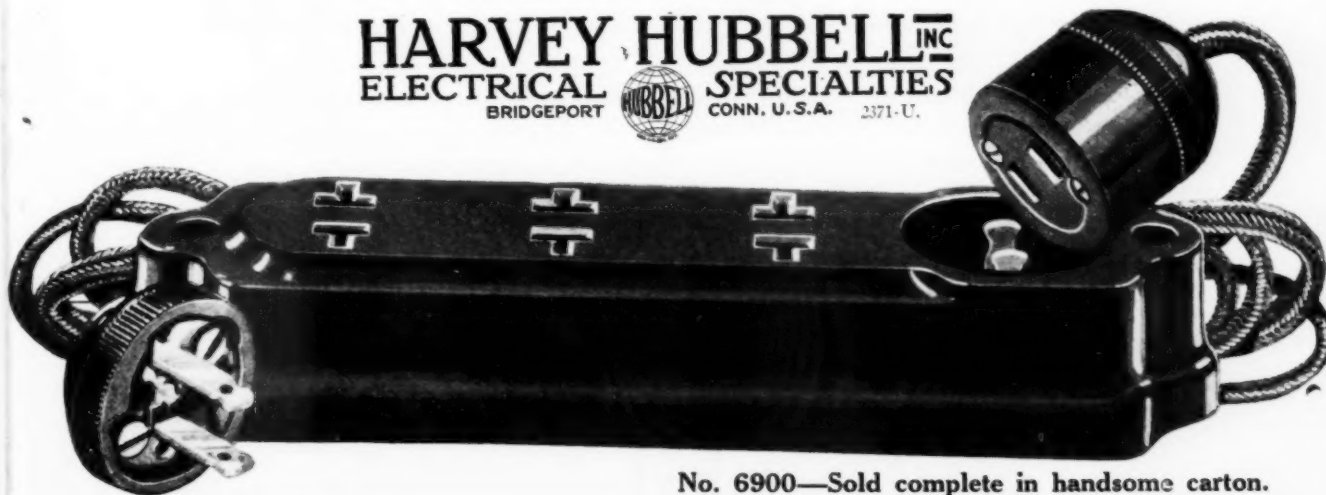
HUBBELL Triple-Outlet Table Tap

Increase your sale of Electrical Appliances by selling Hubbell Triple-Outlet Table-Taps. They bring electricity to the table—each Te-Slot outlet makes it easy to operate toaster, percolator, or other appliance, without unsightly trailing wires.

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No. 6900—Sold complete in handsome carton.

ELECTRICAL SPECIALTIES

Plan Now for Spring Business

In a month or two the time will be ripe for intensive work along house wiring and allied lines.



Electragists looking for specialized help on conducting an intensive or protracted residence lighting activity will find it in the monograph illustrated.

This monograph—"BUILDING RESIDENCE LIGHTING BUSINESS"—is the first fruits of the 1923 extensive publication program of The Society for Electrical Development.

It is just hot off the press and contains 96 pages chock-full of information consisting of charts that will help you visualize the market; tables showing possibilities for sales of lamps and lighting equipment and a vast array of selling and advertising suggestions, a series of lectures, illustrations of demonstration equipment, etc.

A moderate priced consumer booklet—"INTERIOR SUNSHINE"—suitable for mailing to prospects has also been produced by the Society and should be used in any campaign of this nature.

Copies of "**Building Residence Lighting Business**" are available to non-members of the Society at \$1.00 per copy. Get one and plan your Spring activities now!

This monograph is but a sample of the constructive, all-year business building work of the Society. Electragists can and should participate in it to the fullest extent. The cost is comparatively trifling—the benefits are great.

For full information write to:

The Society for Electrical Development, Inc.

Staff Headquarters, 522 Fifth Ave., New York, N. Y.



WEBER DEPENDABLE WIRING DEVICES

Porcelain Sockets

have important advantages over metal shell sockets for bathrooms, cellars, kitchens and other places where dampness, steam, dust or fumes are present. Porcelain does not deteriorate under any of the conditions present in these locations and the finish is indestructible.

Weber Porcelain Sockets



have important advantages over all makes. They are constructed on the same wiring principle as brass shell sockets, and, in many of the various devices, the interior parts are identical with those used in brass shell devices.



And the Line is Complete



Six
Socket
Bodies



Five
Switch
and
Rosette



Twelve
Caps



Sixteen
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On your next order for porcelain sockets, specify WEBER

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There is just one reason WHY. Every penny that comes in and goes out is accurately recorded. Besides, the many other transactions that must necessarily take place in your business are correctly and easily handled through the right system of keeping accounts. And for every live Electragist employing a bookkeeper that right system is the

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In the business of the Electragist so many tools and devices are employed that one of the most necessary and important items of work, because it cannot be done by machinery, is often neglected—the keeping of correct accounts. This cannot be done automatically—not even electrically. But by neglecting it contractors and dealers do business at a great disadvantage.

You are losing out in a very important part of your business if you have a bookkeeper and do not employ the Standard Accounting System. Just think what important details of **real accounting** your work involves! Note them in the diagram below.

How else can you keep the bookkeeping record you should than by the methods devised exclusively for contractor-dealer accounts?

Order Your Accounting Set Today

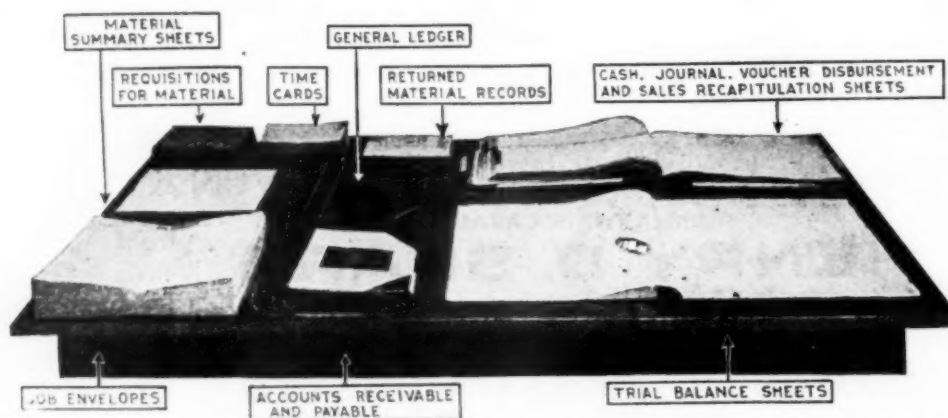
THE STANDARD ACCOUNTING SYSTEM is approved by all branches of the electrical industry including the National Electrical Credit Association and is copyrighted and issued by the

ASSOCIATION OF ELECTRAGISTS INTERNATIONAL

Formerly National Association of Electrical Contractors and Dealers.

15 West 37th Street

New York City



Here is the complete set just as it looks spread out on an ordinary office table

For the business that does not employ a bookkeeper the New Business Record is especially recommended—also issued by the A. E. I.

IN 1915 the Insurance Committee of the National Association of Electrical Contractors and Dealers investigated and recommended to their membership the plan of Insurance at Cost as conducted by Lynton T. Block & Co., of St. Louis.

Now in 1921, after six years of experience in dealing with this well known insurance organization, this same committee has expressed its continued unqualified satisfaction in the resolution contained on this page.

This resolution is therefore presented in this form for the benefit and information of the membership at large.

SIX YEARS OF SATISFACTION 1915-1921

SIX YEARS of satisfactory dealings with Lynton T. Block & Co., Underwriters, of St. Louis, has prompted your Insurance Committee again to go on record as endorsing their plan of insurance, with the attendant saving in money to our members.

Every Insurance Policy placed with this concern increases its ability to serve you better, both in the lowered rates it has influenced and the yearly saving it accomplishes. If the bulk of our members would avail themselves of this tangible advantage of membership, the saving made possible by the action of your Committee would probably total **Fifty Thousand Dollars Every Year**. Volume of business will do this. Your Insurance Committee has done its part; you should do yours and not only save money for yourself, but help your fellow members to save this enormous aggregate.

EVERY promise made by this underwriting organization has been more than faithfully kept, and the advantages have from time to time been increased without any solicitation or additional obligation on the part of the Assured.

Insurance with them costs less than it did six years ago, the coverage is more complete, and the savings are increased wherever deserved. The individual experience of the individual risk is now taken into account in determining the savings.

Inquiry addressed to Lynton T. Block & Co., Underwriters, St. Louis, Mo., or to the Secretary of your Association will bring full particulars regarding Insurance at Cost.

THE RESOLUTION SPEAKS FOR ITSELF—

RESOLUTION

Recognizing the insurance problems confronting this organization, and for the purpose of procuring the best indemnity at the lowest cost, the Executive Committee of this Association, after a careful and thorough investigation by its Insurance Committee in 1915, endorsed the plan of "Insurance at Cost," as conducted by Lynton T. Block & Co., Underwriters, of St. Louis, Mo., through their several Insurance organizations, and recommended to the members of this Association that they avail themselves of the saving in cost and the high character of service afforded.

WHEREAS, a large proportion of the members of this Association have for the past six years, carried their insurance through Lynton T. Block & Co., and found the saving in money to be substantial and the service to be highly satisfactory, and

WHEREAS, the Executive Committee deems these insurance arrangements to be among the important benefits which have been provided for members of this Association;

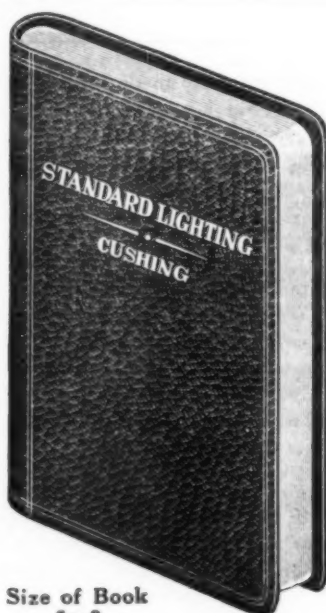
NOW, THEREFORE, BE IT RESOLVED, That the Executive Committee ratify its former endorsement of the Insurance and Service afforded by Lynton T. Block & Co. and urge upon those members not now taking advantage of it to lend their cooperation in this respect and communicate with the St. Louis Office of Lynton T. Block & Co. in matters pertaining to Fire, Casualty and Workmen's Compensation Insurance, with a view to adding momentum to this movement and securing for themselves the benefits which are made available for them.

BE IT FURTHER RESOLVED, That the Insurance Committee of the N. A. E. C. & D. finds the affairs of the various Insurance organizations of Lynton T. Block & Co. to be administered honestly and skillfully; financially sound and worthy of confidence; that each such organization has ample assets for the protection of its Policy Holders, being backed in each case by Assets in excess of \$2,000,000, which serves as a direct guarantee for the payment of losses and the elimination of any assessment liability whatsoever.

The Insurance Organizations herein referred to are:—

Employers Indemnity Corporation,	St. Louis, Mo.
Utilities Indemnity Exchange,	St. Louis, Mo.
Utilities Fire Exchange,	Kansas City, Mo.
Exchange Mutual Indemnity Insurance Co.,	Buffalo, N. Y.

(Signed) J. A. Fowler, Chairman Insurance Committee,
National Ass'n Electrical Contractors & Dealers.



Size of Book
6 x 9

(SECOND EDITION—ENLARGED—REVISED)

"THE NATIONAL AUTHORITY ON ELECTRIC LIGHTING"

STANDARD LIGHTING WITH INCANDESCENT ELECTRIC LAMPS

COMPILED BY A STAFF OF EXPERTS

*Endorsed by the Lighting Department of the Joint Committee for
Business Development in the Movement to "ELECTRIFY"*

The movement for Business Development is being promoted by the following national organizations: National Electric Light Association; Electrical Supply Jobbers' Association; National Association of Electrical Contractor-Dealers; National Council of Lighting Fixture Dealers; The Illuminating Glassware Guild; Illuminating Engineering Society; The American Institute of Electrical Engineers.

In the Compilation of "Standard Lighting", we give credit to the following authorities:

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PART XVII	CODE OF LIGHTING The Code of Lighting for Factories, Mills and Other Work Places, prepared and issued by the Illuminating Engineering Society.

272 Pages—240 Illustrations and Diagrams—55 Tables—Leatherette Cover—Gilt Edges

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ASSOCIATION OF ELECTRAGISTS—International, 15 West 37th Street, New York, N. Y.



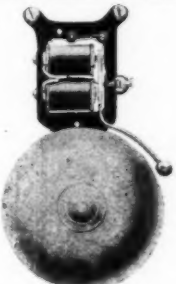
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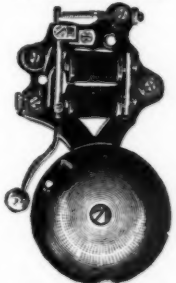
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PUSHES

WOOD
METAL
DESK
DOOR
PEAR
FLOOR
MARINE
MULTIPLE
TABLE CLAMP
ALL FINISHES

SOCKETS

KEY
KEYLESS
PULL CHAIN
ALL FINISHES

FIRE ALARMS

CABINETS
BOXES
SYSTEMS FOR CURRENT
OR STORAGE BATTERY

SHADES

METAL SHADES OF ALL
DESCRIPTIONS

LETTER BOXES

OF ALL DESCRIPTIONS

FLOOR BOXES

SPEAKING TUBES

TIN TUBE
FLEXIBLE TUBE
WHISTLES
ELBOWS
COLLARS
ROSES

BURGLAR ALARMS

DOOR SPRINGS
WINDOW SPRINGS
TRANSOM SPRINGS

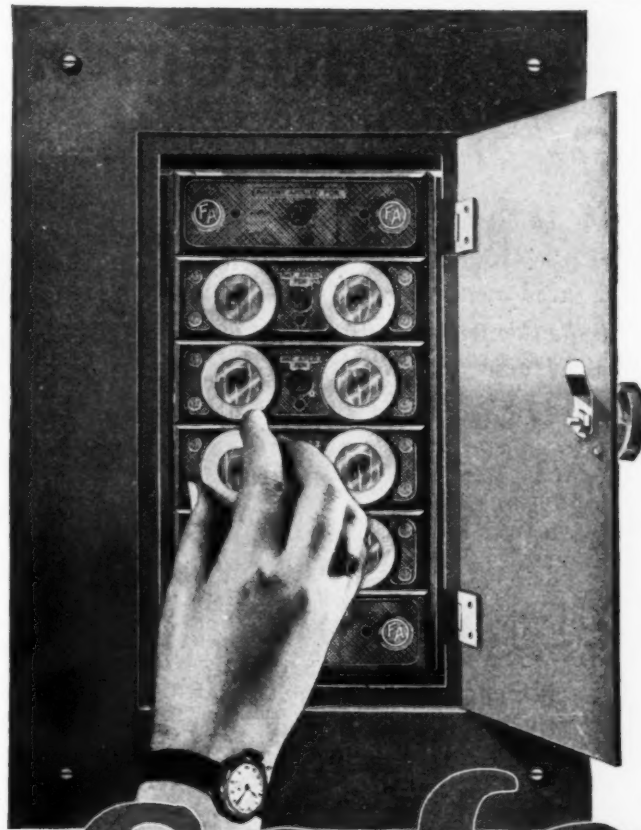
TANK ALARMS

W. R. OSTRANDER & CO.

371 Broadway, New York

Factory: 83-85-87-89 Clifton Place, Brooklyn, N. Y.

Safety Type R Standardized Residence Panel Board



Safe!

**At the
"Center of Distribution"**

Now modern houses can be equipped with the circuit lighting panel board at the center of distribution on the first or second floor at a height that makes fuse renewal easy—with the F. A. Safety Type R Triumph Panel Board.

This is a new point of view which is being enthusiastically received by home builders everywhere;—for it eliminates so much of the old time bother of inopportune fuse-blowouts that all housewives dread.

It is lower cost installed as well, for the largest percentage of labor is applied in the factory with minimum time on the job. Sold "in the package" by jobbers everywhere, a perfect combination of safety, completeness, accessibility, economy and service.

**Send now for your
copy of this new bul-
letin on Home
Wiring**

If not in your files send for "Wiring the Home for Comfort and Convenience," the new book on the Type R—gladly supplied on request.

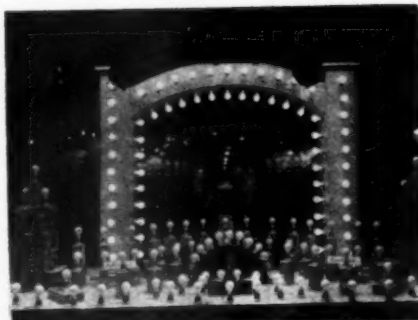


Frank Adam
ELECTRIC COMPANY
ST. LOUIS

The Triumph Line of Standardized Safety Type Panel Boards

—and Rubin is an Electragist

The L. D. RUBIN ELECTRIC COMPANY of Charleston, S. C., was awarded first prize in the two nation-wide Lamp the Home and Red Seal Battery window display contests.



Hundreds in all parts of the country participated in these great contests. All endeavored earnestly to win. But it remained for a live Electragist to bring home the bacon.

The Prize "Lamp the Home" Window

An Electragist has every advantage. He is in a position to do the best work because he is afforded the best instruction in matters that most concern the successful conduct of the electrical contractor-dealer business. The Association not only gives him the benefit of its broad international effort, but gives him a direct service the value of which cannot be measured in money terms.

An Electragist has every advantage

Is there any reason then why he cannot maintain at all times the high standards of business practice which make for the public's safety, service and satisfaction—which the name implies?

An Electragist who takes advantage of his opportunities **as an Electragist** can do a successful business at a profit. He knows his overhead, his turnover. He estimates a job as it should be estimated. He enforces the requirements of the Code. He is active every day in every way.

KEEP US POSTED. Headquarters Office is anxious to keep in close touch with members' activities. If you are undertaking something new or attempting to work out an old method to better advantage let us know about it and we may be able to help you. Photographs will be published in the NATIONAL ELECTRAGIST.

ASSOCIATION OF ELECTRAGISTS
INTERNATIONAL

15 West 37th Street

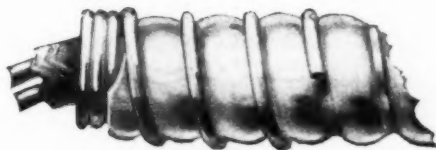
New York City

If you must use Terminal Bushings—

Then Use the Best

and the best is the

T&B NEW SPRING CABLE BUSHING



PAT. PENDING
Cat. No. 1267

Approved by Underwriters Laboratories.

The RULING is that all flexible armored Cables when entering unbushed outlet or Junction Boxes *Must Be Provided* with an approved terminal fitting.

Our No. 1267 Bushing WILL FIT 14-2 wire, 14-3 wire, 12-2 wire and 12-3 wire Armored Conductors.

Have YOU ever seen ANY OTHER Bushing that REALLY bushes the Wire—we haven't.

WHY carry two or more types when our No. 1267 will meet all conditions? Attached in a MOMENT—REDUCES stock—therefore SAVES MONEY.

Buy them from your Jobber at \$4.50 in 5,000 lots. THINK IT OVER!

THE THOMAS & BETTS CO.

63 VESEY ST., NEW YORK CITY



FIVE standardized types to choose from—each type neat in design—smart in appearance and scientifically built for greater protection in every day service—all are moderate in cost.

We specialize in co-operating with architects and engineers who desire individual designs in panel boards that more directly harmonize with the decorative features of the building—quick deliveries.

Send us your specifications.

SPRAGUE ELECTRIC WORKS
Of General Electric Company
Main Offices: 527 W. 34th St., New York
Branch Offices: In Principal Cities

THE MARKET PLACE

ARTISTS—Ready to handle your Photo Retouching, Lettering or Designing—Electrical Appliances and Radio. Address: Jacob Stein Studio, 43 East 27th Street, New York City. Telephone: Madison Square 4199. 6t-11

For Sale—300 Egg Electro-Hatch Incubator, in 2 sections, operated separately. For 32-volt farm lighting plant, convertible to 110 volt. Used one season, perfect condition. Bargain at \$35.00, one half manufacturers' price. Will ship bill of lading subject to examination. Address: Elmer D. Wolfe, Electrical Contractor, Big Rock, Illinois. 1t-2

Situation Wanted—I desire to connect with a firm or person who can use my services and the knowledge I have acquired before and while operating my business as a contractor and dealer for nearly six years. I understand in detail, construction problems, appliances and apparatus. Business administration and I am considered a good salesman. Age 34. Salary, commission or both. Address: P. M. Hinchey, 3826 Corliss Avenue, Seattle, Washington. 1t-3

RADIO FOR SALE

Two or three beautiful receiving sets of various qualities at one-half off the list price. Anyone desiring a radio set that is efficient, compact and beautiful at the same time, will please address Box L, c/o NATIONAL ELECTRAGIST, 15 West 37th Street, New York City. t.f.-10

To Buy or Sell Used Material
For Help Wanted
For Situations Wanted

RATE :
One Inch **\$1.00** Per Insertion

For Sale—The following, none of which have ever been in use: Two Liberty Vacuum Cleaners, \$35 each; One Western Electric Heat Regulator No. 100, \$25; One Utility Motor for Farm Lighting Plant, \$25. Address: Crescent Electric Corporation, 3307 Washington Avenue, Newport News, Virginia. 1t-2

HELP WANTED—Superintendent who can take charge of a New York City motor repair shop and estimate on outside motor and wiring jobs. Only those with this experience will be considered. Big opportunity for the right man. State fully experience and salary expected. Address: Box Q, c/o NATIONAL ELECTRAGIST, 15 West 37th Street, New York City. 1t-1

Wanted—A man experienced in estimating, closing contracts and supervising installations of large work for an electrical contracting company. State in first letter age, past experience, and full information. Address: Box C, E. S., c/o NATIONAL ELECTRAGIST, 15 West 37th Street, New York City. 1t-3

WANTED

Used General Electric direct current type C-6, Westinghouse D. C. type CW-6, General Electric type I and Westinghouse type C or OA alternating current meters in operating condition. Quote best price.

JAMES J. McCOY,
1472 Broadway, New York, N. Y.

Situation Wanted—General manager, electrical contractor, seeks connection with well rated A-1 concern. Thirty-four years old, married, seventeen years' experience. Past six years general manager of large firm in Chicago. Knows electrical contracting business, embracing engineering, purchasing, estimating, handling labor, sales technique and business fundamentals, has large acquaintanceship. Capable of taking full charge or assist in managing a going business or branch office. Good organizer for new field. Address: Box R, c/o NATIONAL ELECTRAGIST, 15 West 37th St., New York City. 1t-2

Wanted—By an old established electrical firm in fast growing Southern town, manager of retail fixture and appliance department. Must be familiar with the buying as well as selling end and with experience in running assembling room. Must have experience in the commercial end as well as residence end. Good place for a live, energetic man of the right type. Position permanent. Give age, experience, references, salary wanted, when can come, etc. Also a good outside solicitor wanted; one who can get the business. Write: Barden Electric Company, Houston, Texas. 1t-4

Surplus Electrical Material in Good Saleable Condition

SWITCHES

1500 pieces Cat. No. 2773 Type C Knife Switch—60 Amp. 2 Poles 250 Volts; N. E. C. Fused\$.72 Each
650 pieces Cat. No. 2774 Type C Knife Switch—100 Amp. 2 Poles 250 Volts; N. E. C. Fused\$1.17 Each
450 pieces Cat. No. 2775 Type C Knife Switch—200 Amp. 2 Poles 250 Volts; N. E. C. Fused\$2.25 Each
These are manufactured by **Trumbull Vanderpool Electric Manufacturing Company**, and are packed in original cartons and cases.

WIRE

100,000 feet No. 8 B. & S. "Ideal" Slow Burning Wire—N. E. C. Standard. Packed in rolls of 250 feet each, eight rolls to the case. Manufactured by the **Phillips Insulated Wire Company** of Pawtucket, R. I.\$15.75 per 100 lbs.

FUSE PLUGS

200,000 3 Ampere Fuse Plugs, made by **Bryant Electric Mfg. Co.** Packed 50 to the carton, 50 cartons to the case\$14.00 per 1000 plugs
150,000 6 Ampere Fuse Plugs, made by **Union Electric Mfg. Company**. Packed 50 to the carton, 60 cartons to the case\$13.00 per 1000 plugs

DOOR FLUSH RECEPTACLES

3750 pieces Cat. No. 430 Bryant Disappearing Door Flush Receptacles, manufactured by **Bryant Electric Co.** of Bridgeport, Conn.\$.30 Each
1500 pieces Cat. No. 494 Plug for Bryant Disappearing Door Flush Receptacle (National Elec. Code Standard), **Bryant Electric Mfg. Co.**\$.35 Each

UNILETS

1500 Cat. No. 23120 Enameled Unilets, size 1/2" x 1/2", made by **Appleton Electric Company**, and packed in individual cartons, 25 cartons to the case\$.60 Each
1300 Cat. No. 6632 Switch Unilets, size 3/4", made by **Appleton Electric Company**, and packed 5 in a carton, 13 cartons to the case\$.38 Each

BRACKETS

51,000 Goose Neck Cast Iron Wall Brackets. Packed 300 to a case at\$5.00 per hundred
No orders accepted for less than 300 Brackets.

REFLECTORS

32,000 8" Flat Cone Steel Reflector Shades; white inside, green outside. Packed 800 to the case\$.03 Each
No orders accepted for less than case lots.

All of the above merchandise is guaranteed to be in good saleable condition. Prices quoted are on case lots.

TERMS—2% ten days—net thirty days, F.O.B. Port of New York.

We reserve the right to fill orders as and when received and to reject all orders when stocks have been exhausted.

Address: S. H., Room 602, 15 West 37th Street, New York City

Flashlights For Sale

6530 pieces **Ever-Ready Daylo Flashlights**, Fibre shells with Mazda Lamps, without battery, size 8 inches long by 1 1/2 inches wide,
\$35.00 per hundred

Batteries for same in lots of 500 ----**\$25.00 per hundred**

**Address: Box S, c/o National Electr-
agist, 15 W. 37th St., New York City.**

**SUBSCRIBE FOR THIS MAGAZINE
TODAY AND RECEIVE THE RE-
PORTS OF NATIONAL ASSOCIA-
TION ACTIVITIES IN EVERY
ISSUE.**

Published Monthly
\$2.00 a Year

NATIONAL ELECTRAGIST
15 West 37th St., New York City

OHIO BRUSH KIT

Costs \$ 8.50
Brings you \$42.00

150 Brushes 60 Springs
Also double size Kits at \$15.30



Do You Make The In-Between-Time Count?

EVERY customer or prospective customer who comes into your store does not come to buy a washing machine, or vacuum cleaner, or some other electrical device. If they did you would soon be numbered among the plutocrats.

Many of those who visit your store want service for the household appliances which they already have. Are you equipped to replace worn brushes and springs on the small motors used in these appliances?

That is where you can make your "in-between-time" count. With an Ohio Brush Kit in your stock you can use your odd minutes to repair the motors on the appliances now used by your customers.

THESE REPRESENTATIVES WILL SUPPLY YOU:

Boston, Mass.
A. F. McCarthy,
69 Oliver St.

Cincinnati, Ohio.
Jas. R. Jordan, Jr.,
217 E. 3rd St.

Kansas City, Mo.
C. M. Clifton,
214 Massachusetts
Building.

Minneapolis, Minn.
A. J. Pyle,
2487 Lundale Av. S.

Chicago, Ill.
Soucek & Co.,
2253 S. Central Park
Avenue

Evansville, Ind.
F. W. Sieffert,
319 Sycamore St.

Los Angeles, Cal.
A. W. Arlin,
Central Bldg.

New York, N. Y.
T. J. Crofton,
280 Broadway.

Iowa State Repr.
Leonard C. Kohn,
2019 Farnam St.,
Omaha, Nebr.

Milwaukee, Wis.
Ohio Carbon Co.,
439 15th Street.

St. Louis, Mo.
L. A. Jaques,
5553 Vernon Ave.

OHIO CARBON COMPANY

8215 Almira Ave.,

Cleveland, Ohio

"DIAMOND H"

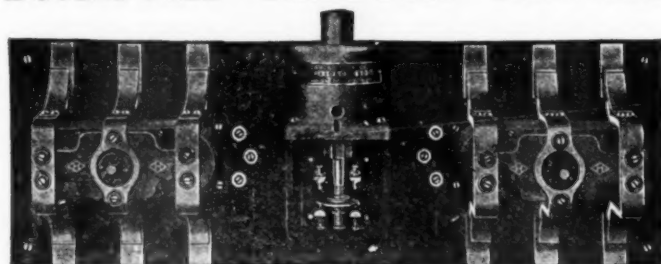
REMOTE CONTROL SWITCHES
LAMINATED BRUSHES
IRONCLAD MECHANISM
SELF CLEANING CONTACTS

FOR
ALTERNATING
CURRENT



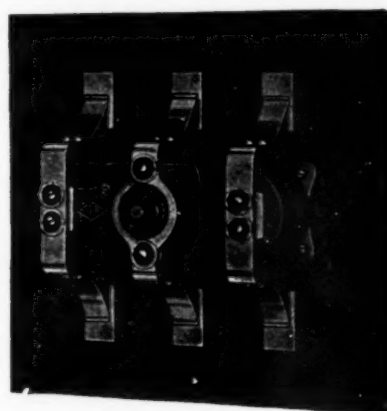
FOR
DIRECT
CURRENT

DOUBLE POLE—THREE POLE—FOUR POLE



Double Throw Combination

For two sources of supply with common load. Transfers automatically upon failure of one source.



Type "F" 3-Pole Back Connected
Remote Control Switch

Double Pole		TYPE "F"		Triple Pole	
Catalog Number	Ampere Capacity	List Price	Catalog Number	List Price	
730	30	\$36.00	790	\$43.20	
740	60	48.00	800	54.00	
750	75	60.00	810	67.20	
760	100	83.60	820	108.00	
770	150	108.00	830	124.80	
780	200	122.40	840	139.20	

Write for Catalogue and Discount Sheet

Made by

THE HART MANUFACTURING CO.
HARTFORD, CONN.,
U. S. A.

BUYERS' GUIDE

of some of the products manufactured by the concerns advertising in this issue. To be listed here is a badge of reliability. To buy from here is a guarantee of satisfaction. When you buy from here please mention the
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General Elec. Co.
Hubbell, Inc., Harvey

ALARMS, BURGLAR, FIRE

Conn. Telephone & Elec. Co.
Ostrander & Co.
Partrick & Wilkins Co.
Stanley & Patterson.
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Ostrander & Co., W. R.
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ASBESTOS WOOD

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Stanley & Patterson.

BATTERY CHARGING OUTFITS

Westinghouse Elec. & Mfg. Co.

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Connecticut Tel. & Elec. Co.
Electrical Sales Co.
Manhattan Elec. Supply Co.
Ostrander & Co., W. R.
Partrick & Wilkins.
Schwarze Elec. Co.
Stanley & Patterson.

BENDERS, CONDUIT

Steel City Elec. Co.
Thomas & Betts Co.

BLOCKS, MOLDING

Bryant Electric Co.
Roberts Elec. Sup. Co., H. C.

BOOKS, ELECTRICAL

Ass'n of Electragsists, International.

BOLTS, TOGGLE

National Metal Molding Co.
Thomas & Betts Co.
Westinghouse Elec. & Mfg. Co.

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Chicago Fuse Mfg. Co.
Hart Mfg. Co.
National Metal Molding Co.
Sprague Elec. Works.
Steel City Elec. Co.
Thomas & Betts Co.
Tucker Mfg. Co.
Westinghouse Elec. & Mfg. Co.

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Frank Adam Electric Co.
Sprague Elec. Works.
Stanley & Patterson.
Steel City Elec. Co.
Thomas & Betts Co.
Westinghouse Elec. & Mfg. Co.

BOXES, MANHOLE (JUNCTION)

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General Elec. Co.
Johns-Pratt Co.

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Westinghouse Elec. & Mfg. Co.

BOXES, PULL

Westinghouse Elec. & Mfg. Co.

BOXES, WOOD OR CABINET

Stanley & Patterson.

BRACKETS, TELEPHONE

Stanley & Patterson.
Western Elec. Co.

BRUSHES

General Elec. Co.
Ohio Carbon Co.
Westinghouse Elec. & Mfg. Co.

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Pass & Seymour.
Westinghouse Elec. & Mfg. Co.

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Hart & Hegeman.
Thomas & Betts Co.
Westinghouse Elec. & Mfg. Co.
Wurdack Elec. Mfg. Co.

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Westinghouse Elec. & Mfg. Co.

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Minerallac Elec. Co.
National Metal Molding Co.
Sherman Mfg. Co., H. B.
Sprague Elec. Works.
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CLEANERS, VACUUM

Western Elec. Co.

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Johns-Pratt Co.

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Westinghouse Elec. & Mfg. Co.

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Philadelphia Elec. Co.

CONCENTRIC, WIRING FITTINGS

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TELEGRAPH
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Western Elec. Co.

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American Circular Loom Co.
Central Tube Co.
Clifton Mfg. Co.
Enameled Metals Co.
Killark Elec. Mfg. Co.
National Metal Molding Co.
Sprague Elec. Works.
Steel City Elec. Co.
Trumbull Elec. Mfg. Co.
Tubular Woven Fabric Co.

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Frankel Connector Co.
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CONNECTORS, SLEEVE

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CONNECTORS, SOLDERLESS

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Frankel Connector Co.
Westinghouse Elec. & Mfg. Co.

CONNECTORS, WIRE

Stover & Co., S. H.

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CUTOUTS

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Bryant Elec. Co.
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General Elec. Co.
Hart & Hegeman Mfg. Co.
Johns-Pratt Co.
Pass & Seymour, Inc.
Trumbull Elec. Mfg. Co.
Westinghouse Elec. & Mfg. Co.

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DYNAMOMETERS

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EBONY ASBESTOS WOOD

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Western Elec. Co.
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FANS, HANGERS

Adam Electric Co., Frank

FANS, MOTOR

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General Elec. Co.
Manhattan Elec. Supply Co.
Robbins & Myers Co.
Sprague Elec. Works.
Western Elec. Co.
Westinghouse Elec. & Mfg. Co.

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Westinghouse Elec. & Mfg. Co.

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Bryant Elec. Co.
Frailick & Co., S. R.
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Killark Elec. Mfg. Co.
National Metal Molding Co.
Sprague Elec. Works.
Square D Company.
Steel City Electric Co.
Thomas & Betts Co.
Trumbull Electric Mfg. Co.
Westinghouse Elec. & Mfg. Co.

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WINDOWS

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Boardslee Chandler Mfg. Co.
Faries Manufacturing Co.
Frank, Inc., I. P.
National X-Ray Reflector Co.
Shapiro & Aronson, Inc.

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Frailick & Co., S. R.
Thomas & Betts Co.

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Westinghouse Elec. & Mfg. Co.

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Chicago Fuse & Mfg. Co.
General Electric Co.
Johns-Pratt Co.
Westinghouse Elec. & Mfg. Co.

FUSES, OPEN LINK

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Sprague Electric Works.
Westinghouse Elec. & Mfg. Co.

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National X-Ray Reflector Co.

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HANGERS, ARC LAMP

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Westinghouse Elec. & Mfg. Co.

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Minerallac Elec. Co.
Pass & Seymour, Inc.
Steel City Elec. Co.
Thomas & Betts Co.

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Westinghouse Elec. & Mfg. Co.

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Westinghouse Elec. & Mfg. Co.

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Johns-Pratt Co.
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INSULATORS, CANOPY

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General Elec. Co.

INSULATORS, HIGH VOLTAGE

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Stanley, Arthur F.
Johns-Manville, Inc.
Westinghouse Elec. & Mfg. Co.

INSULATORS, TREE

Westinghouse Elec. & Mfg. Co.

IRONS, CURLING

Westinghouse Elec. & Mfg. Co.

IRONS, SOLDERING

General Elec. Co.

JOINTS, CABLE

Dossert & Co.
Westinghouse Elec. & Mfg. Co.

JOINTS, FIXTURE INSULATING

Thomas & Betts Co.

LAMPS, ARC

General Elec. Co.
Westinghouse Elec. & Mfg. Co.

LAMPS, AUTOMOBILE

Connecticut Tel. & Elec. Co.

LAMPS, INCANDESCENT

Edison Lamp Works
General Electric Co.
Hubbell, Inc., Harvey.
Hygrade Lamp Co.
Johns-Manville, Inc.
National Lamp Works.

LAMPS, PHOTO-ENGRAVING

General Elec. Co.

LAMPS, TROUBLE, AUTOMOBILE,

PORTABLE, HAND
Connecticut Tel. & Elec. Co.
Stanley & Patterson.

LIGHTING FIXTURES

Brascolite Company.

LIGHTS, STAGE

Sprague Elec. Wks.
Western Elec. Co.
National X-Ray Reflector Co.

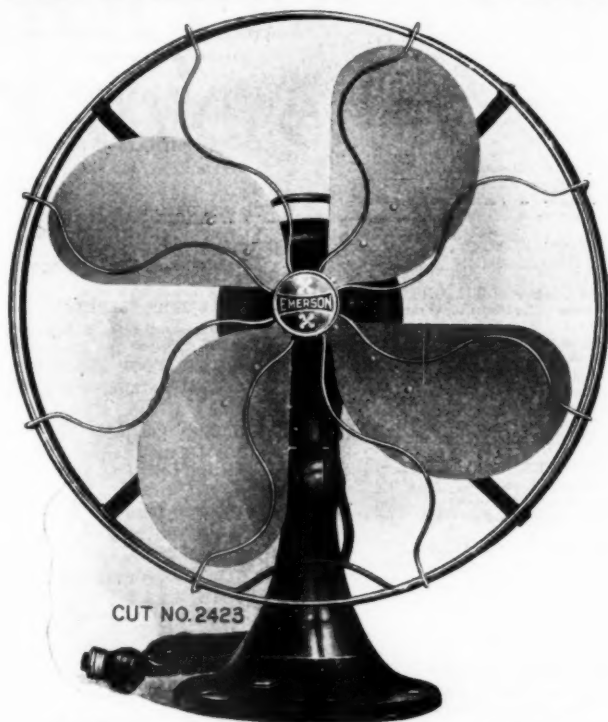
LOCKS, AUTOMOBILE

Connecticut Tel. & Elec. Co.

LOCKNUTS

Frailick & Co., S. R.

Emerson Oscillators!



The fans that are REALLY adjustable.
Sold by dealers that know *fan values*.

Every part GUARANTEED for 5 years.
9-inch, 12-inch and 16-inch fans—

All with 3 speeds.

The Emerson Company sells no apparatus
at retail.

The Emerson Electric Mfg. Company

2018 Washington Avenue, St. Louis, Mo.

50 Church Street, New York City

PITTSBURGH
THREAD PROTECTED
ENAMELED CONDUIT
STANDARD
PATENTED



Profits Ahead

AHEAD of schedule means more jobs, more profits ahead. Use P. S. on one job and you can revise your schedule of future jobs to include many more. The time it saves you can count in actual dollars.

Reaches the job ready to install. Patented Thread Protectors keep threads sharp, true and clean—with just enough enamel to protect from rust.

Eliminates reversing couplings and running dies over pipe ends. No interruption when P. S. guides the work; it costs no more than ordinary enameled conduit.

ENAMELED
PITTSBURGH, PA.
METALS CO.

BUYER'S GUIDE—Continued

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Dossert & Co.
Trumbull Elec. Mfg. Co.
Westinghouse Elec. & Mfg. Co.

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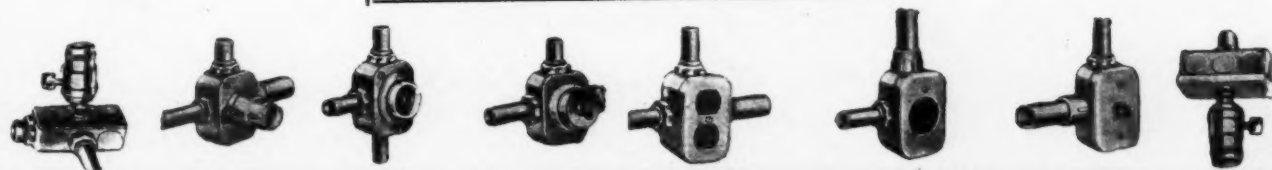
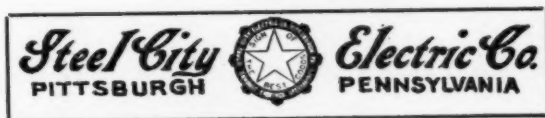


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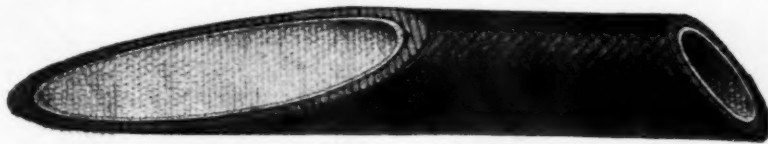
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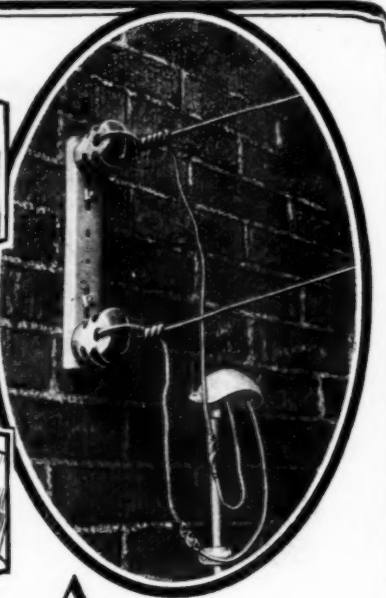
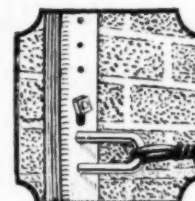
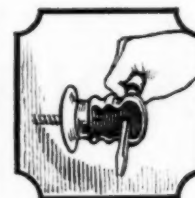
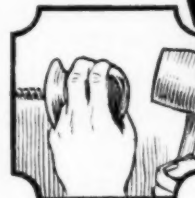
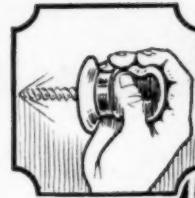
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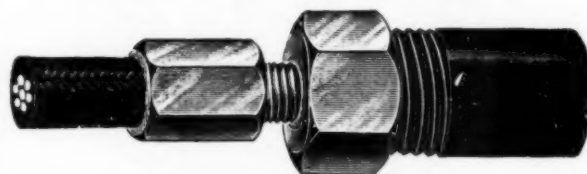
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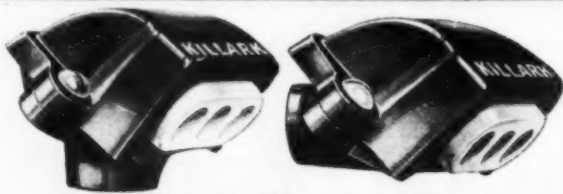
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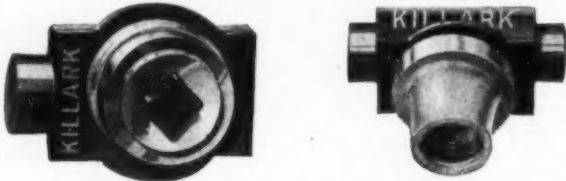
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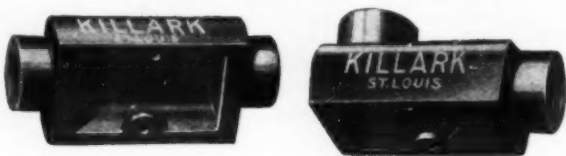
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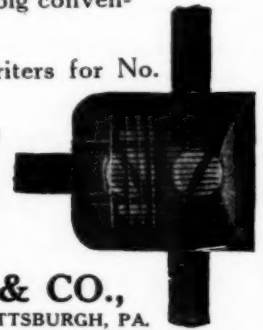
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No solder—no blow torch—just a supply of Walger Connectors in their pockets to connect fixtures or tap feed wires; a big convenience in cramped places.

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The 100% Electrician Says:



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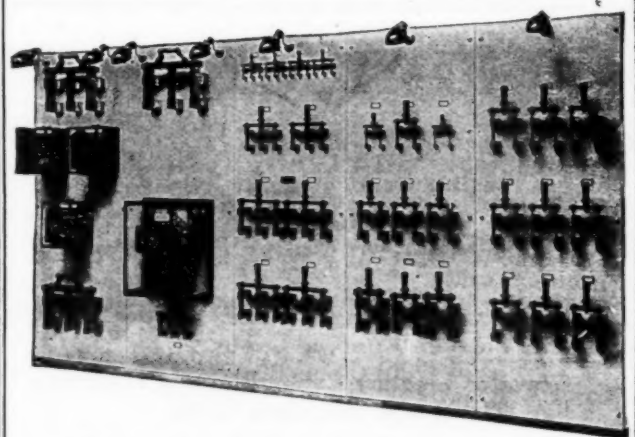
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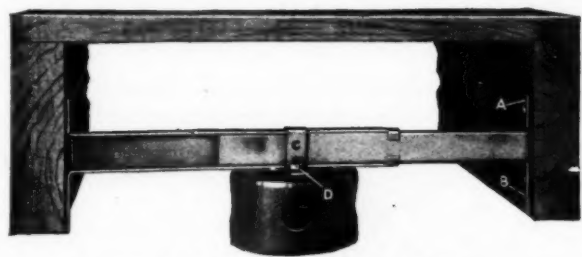
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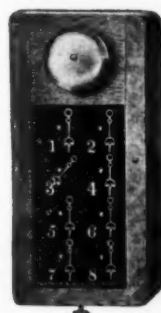
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RADIO SERVICE SUPPLEMENT TO THE NATIONAL ELECTRAGIST

Yearly subscriptions to the National Electragnet, which includes The Radio Service Supplement as a part of its regular issue, \$2.00 a year.

PUBLISHED ON THE FIRST OF EVERY MONTH

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15 West 37th Street, New York City

National Electragnet, formerly Electrical Contractor, was established 21 years ago as the official journal of the National Association of Electrical Contractors.

APRIL, 1923

British Broadcasting Advances

In spite of the fact that radio broadcasting is just really getting started in England, big strides are being made. Grand opera, the Guard's Band, and orchestra recitals are being sent out from Marconi House by the British Broadcasting Company and regular concerts are transmitted from London, Birmingham, Manchester and Newcastle while the stations at Cardiff and Glasgow are expected to be in operation very shortly.

It is stated that the inauguration of this service has been the means of stimulating the sales of receiving sets to an enormous extent and that it is difficult to keep pace with the demand. This is somewhat the same condition that existed in the United States when the craze first started and when manufacturers had not made plans to adequately serve the public through the dealers.

Perfecting Wired Wireless

Much progress has been made in the development of wired wireless, and it is stated that plans are now under way to put some of the experimental work into practical operation. In this new plan electric light service patrons will be charged a nominal fee for the service which will consist of a selection of entertainment matter, music, speeches, talks, reports, etc., and the subscriber will simply have to plug in a condenser arrangement into any lamp socket and with the use of a very simple receiving set devoid of any antenna be able to select whatever program he cares to listen to.

Full details of the operation are not yet available but it is presumed that the central station furnishing the lighting current will by means of an extremely fine receiving set in the hands of a competent operator select the programs from various broadcasting stations over the country and relay them to subscribers.

If this plan is found practical it should bring much additional business to the electragnet because he is already working closely with the electric lighting company and the sale of apparatus and the installation of it should naturally fall to him.

This is another opportunity for the electragnet to cash in and he should see to it that he gets the business in preference to having it go to other lines of trade.

New Circuits For Old

Everybody seems to have a new pet circuit these days. So many new names have been tacked onto circuits that Armstrong seems to have been forgotten for the time being. Much attention is being given to circuits employing the so-called spider web coil.

In spite of all these circuits the good old fashioned regenerative circuits are still doing business at the old stand and are continuing to give satisfaction. There are so many thousands of possible hook ups which will work that all the combinations have not been exhausted yet.

If all the circuits that have been published were gathered together, they would make a mighty volume. This is one of the fascinating things about radio, the possibility of improvement through slight changes.

It is also one source of profit to the electrical dealer because the radio fan is constantly striving to get better reception of stations that are still farther away than the ones he has been getting.

Broadcasting in Brazil

Brazil is now celebrating the one hundredth anniversary of its Declaration of Independence by holding centennial celebrations in Rio de Janeiro and is being entertained by an American radio telephony broadcasting station.

Two 125-foot masts were erected on the summit of a 2,000-foot mountain peak and on these are stretched a 153-foot six-wire antenna between two 26-foot spreaders. The counterpoise consists of two sections of five wires each, mounted on two 26-foot spreaders which are balanced on the ends of the 70-foot horizontal pole bolted fast to the mast on the summit. The counterpoise wires are stretched clear of the mountain sides, down about 100 feet to the tops of two poles located near the terminal building of the railway where the wires converging symmetrically for a 10-wire cage which leads into the radio telephone operating room. The hum of the 220-volt alternating current meter was eliminated by a filter system made up of microfoid condensers and large choke coils.

A single wire antenna was strung from the mountain top to the operating room, about 125 feet below, for receiving messages. A speech amplifier is located in the operating room.

The call letters SPC were assigned to the station, and the first concert was broadcast last August.

Viewing Discounts

How English Traders Take Into Consideration This Important Factor of Business

England, in early history the home of slaves and serfs, has so far swung the pendulum in modern times that possibly no other country in the world is controlled more completely by its lower and middle classes. Trade unionism has a strength in England that would send a chill down the backs of many legislators in this country.

The various trades, begotten of the more ancient guilds, are in absolute control of their various lines of business. There are trade magazines and journals which circulate exclusively among the trades and it is considered almost high treason for a manufacturer to grant a discount to anyone outside the trade. Read what *Electrical Industries*, a ranking British electrical trade magazine, has to say editorially about radio discounts:

"In a leading article a contemporary recently discussed at great length the question of trade discounts for wireless apparatus to garages, tobshops and drapers, and actually endeavored to defend those manufacturers—we believe they are very few in number—who do grant trade terms to these people and also sell direct to the public.

"We are surprised that a journal, which for over fifty years has championed the cause of the electrical trade, should be in favor of such a policy. Still more are we surprised at the ridiculous arguments upon which the defense is based.

"We are told for instance that the trade discount is the payment for the cost of finding the customer; that if the manufacturer incurs the expense of doing this he has the right to accept any direct orders which come his way; and that he would be foolish to forego the extra profit which the dealer has not earned.

"Such a statement strikes at the very root of trading morality. Trade discounts not only have to pay the cost of finding the customer but they have to pay the butcher and baker, enabling the dealer to live to sell again. If dealers find that they are being systematically despoiled by certain manufacturers of their rightful share of the profits they will assuredly refrain from stocking or recommending the apparatus made by these firms.

"We are happy in the belief, however, that the great majority of wireless manufacturers are steadfast in their de-

termination to give traders a straight deal. The great electrical firms who have built up big reputations and big businesses on the goodwill of the electrical trade will not break faith with them in connection with this latest development. The younger firms who maybe are now kicking over the traces, will in time learn reason and see the error of their ways. They will do so just so soon as they realize how dependent they are on that mysterious, indefinable force known as goodwill.

"Meanwhile electrical traders should not hold back but carry on selling sets—for all they do a little grumbling by the way. Let them take as much of the new trade as comes along and go out energetically to get more, realizing that ultimately they will get all of it as did their American brother contractors.

"The age old law of the survival of the fittest will gradually come into operation, for who is better qualified than they to sell the service which every listener in wants to purchase in addition to his 'box of tricks'?"

If the electrical trade felt more acutely the extension of the radio business in other lines in this country, the dealers would have the great bulk of the business and could more or less control the



When Herbert Hoover Spoke at KHJ, the Los Angeles Times Station, His Voice Was Picked up 3,500 Miles Away, Which is Something of a Record Even in These Days. We All Know Herbert's Official Connection, But Did We Know He is Also Arbiter of Radio and Telephony in the United States?

situation. Our British contemporary errs in stating that the American brother contractors have secured all the business.

They have not. Some of it is still in the hands of department stores, hardware stores, music stores and even five and ten cent stores. But ultimately we hope to see the bulk of the radio business where it belongs, with the electragist.

Safety First

Spinkus—Old Henpeck doesn't look as down-hearted as he used to.

Spunkus—No, he doesn't have to listen to his wife talk any more. He has a radio set and wears receivers around the house all the time.—Crosley Radio Weekly.

Station WOC, Davenport, Ia.

This station is operated by the Palmer School of Chiropractic and is heralded as "Where the West begins." Over eleven thousand letters, cards and telegrams in a single week have been received in acknowledgement of messages received. Every day the operators receive some gift from the invisible audience, shoes, clothing, candy, honey, popcorn, fruit, dressed chicken and even soap.

Many money contributions are received and all such contributions are put to a fund to purchase crystal, receiving sets to be loaned to shut-ins. More than a hundred such sets have been purchased so far and are bringing joys to the sick in many parts of the country.

The station is equipped with a 500 watt Western Electric radiophone transmitter and a public address system is used to distribute the radio programs and announcements throughout the school's classrooms.

Standard Waves Used

For the purpose of meeting the growing demand for some kind of radio signals by which owners of receivers and transmitters may check their wave lengths against some recognized standard the Bureau of Standards at Washington commenced the broadcasting of standard waves on March 6. Sufficient power is used so that observers 1,000 miles from Washington may check up their apparatus.

Impetus in perfecting the idea was given the bureau by the possibility of the White bill becoming a law during

the last session of Congress thereby permitting the Secretary of Commerce to assign various wave lengths to broadcasting stations.

It was felt that if the reassignment of waves brought some of the radiophone stations within ten percent of the wave lengths of powerful transmitters the interference with the reception of radio concerts would create serious disturbances.

By providing a means for continually checking the waves of transmitters the owners of the latter could not be held responsible for interference for which they were not to blame.

At first the test signals will cover only those waves between 550 meters and 1,500 meters. By May 1 it is hoped to cover the additional band from 125 to 600 meters thus supplying an authoritative service for amateur and professional alike.

Broadcasts Culinary Talks

The advertising minds of the Peoples Gas Company's organization in Chicago are entitled to credit for the conception and execution of the clever idea of broadcasting a daily talk by Mrs. Anna Peterson on cooking.

Every week day at 11:30 a. m. the KYW broadcasting station in Chicago spreads over a wide area of country her chatty remarks and proof is supplied in many ways that hundreds listen in.

Mrs. Peterson furnishes a dinner menu. This company has advertised the talk in its territory.

First Argentine Station

The big high power wireless station at Monte Grand, near Buenos Ayres, the first South American station in the international commercial radio system, is almost completed. It will begin service in June or July.

It will place Argentina in direct wireless communication with the United States for the first time, as well as with Europe. Radio engineers say there are two strange static dead areas, one near the equator off Brazil, and one in the South Atlantic, which only a station equipped like that at Monte Grande can overcome.

The new station has been built entirely with American materials. All that remains unfinished are the control lines from Monte Grande into the city, a distance of twenty-four kilometers, which will be placed in underground

conduits leading to the company's office in the business center.

Solves Transmitter Problem

Recent Microphone Invention Tried Out Successfully at KDKA

Dr. Phillips Thomas, research engineer of the Westinghouse Electric & Manufacturing Company, has invented a new transmitter which makes possible the broadcasting of music and other sounds exactly as produced. It has been used at the broadcasting station KDKA within the past few months.

The basis of Dr. Thomas's invention is the elimination of the diaphragm now used in all transmitters in practical service. This diaphragm consists of a thin disk of metal or other substance and operates by being vibrated by the sound waves which strike it. But because of its inherent inertia, no material diaphragm is capable of vibrating in perfect sympathy with the entire range of audible sounds.

If it can transmit low notes successfully, it will fail on high notes; and vice versa. The ordinary diaphragm is designed with reference to the middle register, and it therefore does not transmit extremely high and extremely low notes satisfactorily. The piano is a case in point. The radio audience hears the highest notes as a series of clicks and the very bass notes as a roar.

In the Thomas transmitter a minute electrical discharge takes the place of the mechanical disc. This discharge flows between two points, separated by a very small fraction of an inch. It is

affected by sound waves, just like the diaphragm, but being non material and having no perceptible inertia, it responds equally well to all vibrations. Hence music broadcast by means of it is transmitted in all its original purity.

Dr. Thomas has recently been experimenting with his transmitter at the Pittsburgh station KDKA. Within the near future, all Westinghouse stations will be regularly equipped with this device.

In appearances, the Thomas transmitter resembles a large watch, with the front and back covered by wire gauze. On looking into it, a point of light can be seen, caused by the flow of the electric energy against one of the terminals. From this fact, it is called the Glow Discharge transmitter.

Novel Meeting Broadcast

For the first time in history an annual meeting of stockholders has been broadcasted nationwide by radiophone.

The entire proceedings of the annual meeting of the Commonwealth Edison Company of Chicago were sent through the air to those of the company's 27,000 stockholders who were unable to attend. In addition the company's 615,000 customers were invited to sit in and listen to the business session of the company.

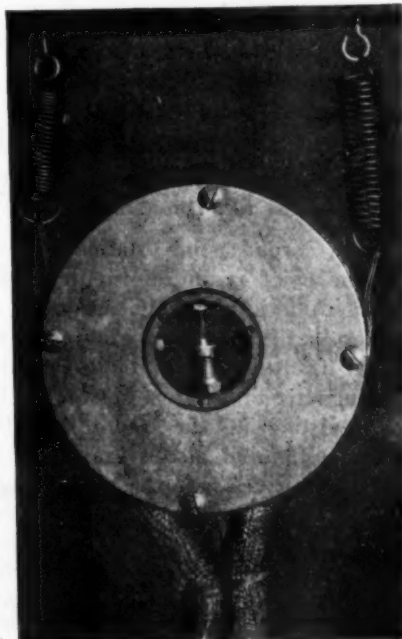
German Radio Arrives

The first radio apparatus that Germany has sent to this country since the beginning of the war arrived in the United States in February consigned to the agent of the Deutsche Telephonwerke und Kabelindustrie A. G., Berlin. The shipment is understood to be in the nature of a sample line and more will be sent later.

Those who have examined the samples report that the workmanship is indeed very good and many small details which are lacking on American apparatus have been well developed on the German equipment. For instance a loop antenna has a graduated scale for observing direction and a small compass.

The telephone receivers are fitted with a device for adjusting the distance from the diaphragm to the pole pieces. In general the design is much the same as on American apparatus and it is reported that many of the ideas must have originated in this country.

The shipment shows a number of complete receiving sets and a fairly complete line of parts for assembly.



Showing a Close Up View of the Slow Discharge Microphone

Prizes at Exposition

Contests on Radio Subjects of Vital Importance to Be Awarded

The manager of the American Home and City Beautiful Association Exposition, to be held on the Million Dollar Pier, Atlantic City, this summer, has completed arrangements for conducting a nationwide essay contest on the following subjects: "The Best Way to Educate the Public on Radio;" "Why Radio Should Be in Every Home, and How It Can Be Done;" "Who Shall Carry on and Pay for Future Broadcasting;" "The Complete Radio Set As the Logical Installation."

The following men prominently identified with the radio industry have been invited to be represented on the board of judges for awarding prizes to winning contestants: Dr. De Forest of De Forest Company of Newark, N. J.; Paul Godley, Adams-Morgan Company, Upper Montclair, N. J.; A. H. Grebe, The Grebe Company, Jamaica, L. I.; Gen. J. G. Harvord, David Sarnoff and P. Boucheron of the Radio Corporation of America; M. P. Rice, General Electric Company; Dr. W. H. Easton, Westinghouse Electric Company; Paul Findley, Western Electric Company; Major Gen. Squier, chief signal officer, U. S. A.; Dr. A. N. Goldsmith, director of research, City College of New York; H. Gernsback, editor, *Radio News*; Major J. Andrew White, editor, *Wireless Age*; Kendall Banning, editor, *Popular Radio*; Boland Park Hennesy, editor, *Radio World*; Henry M. Shaw, president, Radio Trade Association; Lawrence A. Nixon, editor, *Radio Dealer*, secretary Radio Trade Association; and Jack Binns, *New York Tribune* Radio Section.

Those who compose the board of judges also have been appointed as the radio committee for the radio exhibit, an important section of the American Home and City Beautiful Association Exposition.

The exposition management will also conduct an essay contest and award prizes to winners in a contest in which only radio fans or those who listen to broadcasting are eligible to submit essays on the subject: "What We Want to Hear Over Radio." The radio fan contest promises to be extremely interesting from many viewpoints.

The exposition management is taking the utmost precaution to obviate obstacles which have been noticeable in other exhibits for radio demonstration, to prevent interference with radio re-

ception, to have sufficient areas erected over the exposition structure, and make all necessary provision for successful operation of radio sets and in avoiding annoyances of having several loud speaking sets in operation simultaneously by allotting periods for each exhibitor, and providing sound proof booths.

The leading manufacturers will be given opportunity to exhibit and all rules insuring most satisfactory results to exhibitors will be subject to their recommendation and approval. Price cutting will not be tolerated and only concerns of high standing in the industry will be invited to participate.

Orders may be taken by exhibitors for sales to individuals or to dealers and wholesalers in any part of the country. No over the counter retail deliveries will be permitted; however, provision being made for delivery service in any part of Atlantic City and to guests stopping at the hotels which will make counter deliveries unnecessary.

A specially constructed dance floor in a beautiful hall in connection with the exposition will be devoted to dancing by radio. This is sure to be an unusually interesting feature of the exposition.

Exposition management will maintain free radio information service to visitors at the exposition regarding radio publications, literature, and special information which radio manufacturers may wish disseminated. Many new features not seen at other radio exhibitions will be offered to make the show highly interesting to the public.

There will be pictures showing development of tubes, the smallest and most unique radio sets in the world, etc., to attract attention.

N. R. C. C. Data Analyzed

This Body Received An Interesting Response to a Questionnaire

Fewer broadcasting stations constitute the chief radio reform demanded by the American people, according to the results of a nationwide inquiry conducted by the National Radio Chamber of Commerce in an effort to wipe out the evils existing in the radio industry. The investigation also revealed an insistent public desire for better programs, federal regulatory legislation to end confusion and to thwart selfish interests, and separation of public broadcasting stations from the experimental stations operated by amateurs.

The Chamber sent a questionnaire to persons representing all phases of the

art from manufacturer to listener. The replies are analyzed in a statement made public by Ralph C. Watrous, former lieutenant governor of Rhode Island and a member of the Chamber's special committee appointed to make a study of the broadcasting situation.

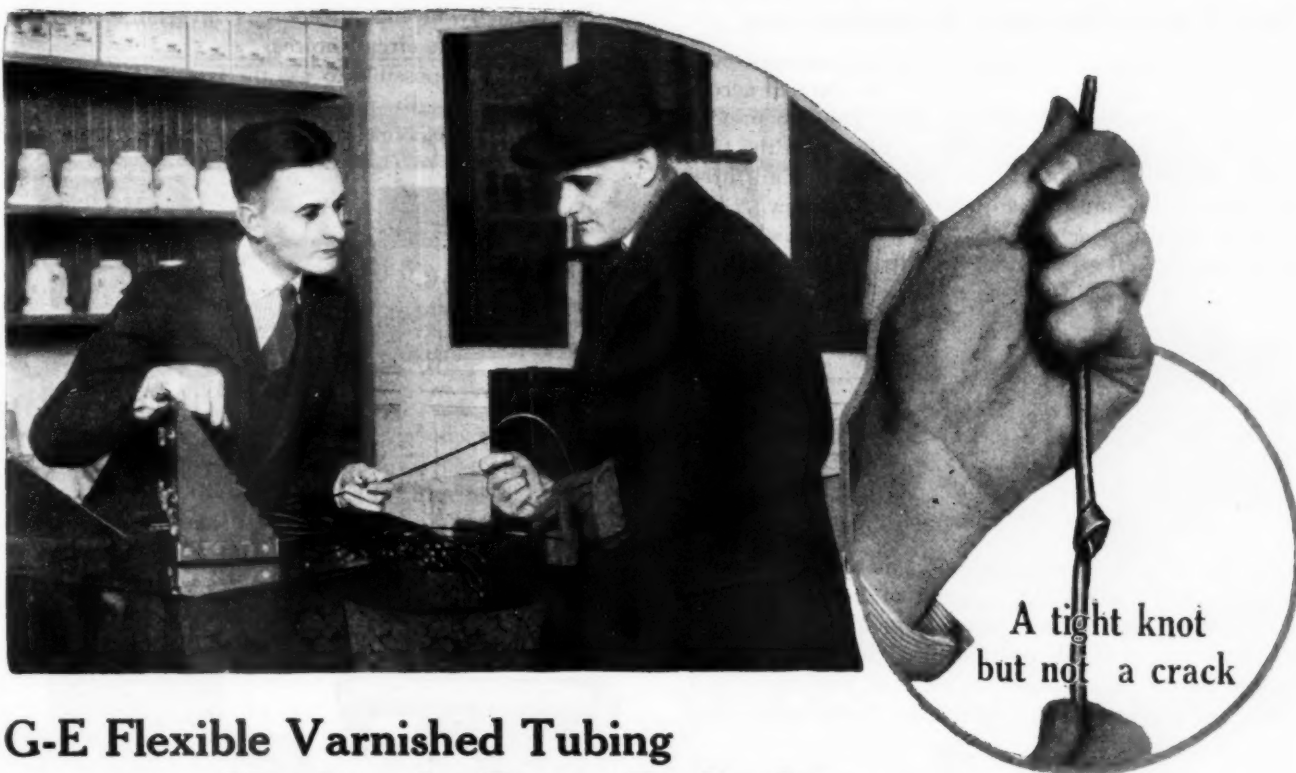
The Chamber warns that a serious economic question exists and asserts its purpose to keep broadcasting within the hands of the public, to whom this means of new communication belongs.

The one outstanding problem is that of broadcasting, says the statement. The response to the questionnaire was very gratifying and pointed the way in several directions very clearly. Most prominent of all was the idea of fewer broadcasting stations with better programs. No exact number of stations was generally recommended; and this could not well be as the range of stations is so rapidly changing, both as to their efficiency and also as to the steadily increasing receiving range of more efficient receiving sets. But that progress would be more rapid when we realize the necessity for fewer stations seems a perfectly safe deduction from the answers to the questionnaire.

The matter of better programs seems to be very naturally related in the minds of those answering to the expense of furnishing really good programs, but it does not seem to matter who pays for it or how. The more people who can be served by a single station the less of course the expense per listener. This economic question is a very serious one and in the interests of the general radio public must be dealt with very carefully. However of course the people as a whole interested in radio must finally in some way pay the bill.

Another matter clearly brought out by the questionnaire was that proper legislation should be enacted in Congress that would not only safeguard our federal departments but give to Secretary Hoover's department the power to so regulate radio, and broadcasting in particular, that the greatest service shall be realized by the greatest number.

It would seem that the questionnaire also clearly indicates a line separation between public broadcasting stations from the stations operated largely in experimental work by our amateurs who served such a useful purpose during the war and who have done much constructive work. They must have a place, but their power and range must not be allowed to interfere with the public's use of this new means of communication to an unreasonable extent.



G-E Flexible Varnished Tubing Used in the Better Radio Sets

The flexible varnished tubing (or "spaghetti") used as insulation in the better grade of professionally built radio receiving sets is now available for the use of those who are building their own sets or are engaged in any electrical experimentation or work requiring insulation of this character. Dealers can now handle a high grade tubing at a popular price.

G-E flexible varnished tubing is of high mechanical and dielectric strength and is so flexible that it will not crack on the shortest turns and, furthermore, retains this flexibility indefinitely. This is an important feature to dealers as they can carry adequate stocks without fear of deterioration.

The General Electric Company offers for the use of electrical manufacturers, repair shops and the general public the same high quality insulating materials that are used in the manufacture of its own electrical apparatus of every kind.

Ask any G-E Distributor for further information

Specifications of G-E Flexible Varnished Tubing

Inside Diameter	Covers B & S Gauge (Bare) Wire
1/32"	#40 to 21 incl.
1/16"	20 to 15 incl.
3/32"	14 to 11 incl.
1/8"	10 and 9
5/32"	8 and 7
3/16"	6 and 5
7/32"	4
1/4"	3

Furnished in 2-ft. lengths
4 Colors: Red, Green,
Black, Yellow. Remains
soft and flexible indefi-
nitely.



General Electric Company
Merchandise Dept., Bridgeport, Conn.

Insulations

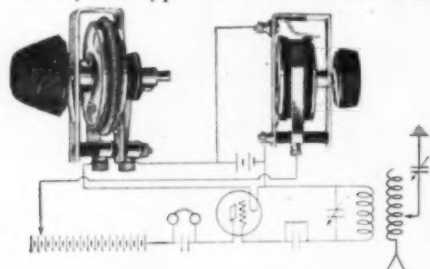
Use them when you build—demand them for repairs

48G-3

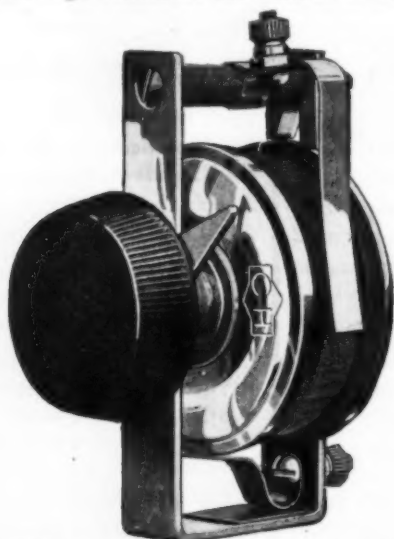
New Cutler-Hammer Potentiometer

The range of most receiving units can be increased considerably through the use of a potentiometer shunted across the A battery. The vernier rheostat gives just the precise control necessary for the correct electron flow from the filament of the tube, but to obtain maximum efficiency all three circuits of the triode must be adjusted with accuracy.

The plate circuit is actuated by the B battery, which is usually of the dry cell type—18 to 24 volts. When properly



connected the A battery serves as supplementary voltage in this circuit, and through the medium of a potentiometer the A battery potential can either be added to or subtracted from that of the B cells. Since this potentiometer shunts the storage cell it must be of high resistance, and because of this high resistance the control is extremely fine.



The Cutler-Hammer Mfg. Company, Milwaukee, Wis., has just brought out a potentiometer for this work which matches exactly their radio rheostats. It—like the rheostats—is of the revolving drum type and finished in dull satin nickel and ebony black. A polished nickel indicator and cone shaped knob of Thermoplas appear on the front of the panel.

This potentiometer has a broad, flat contact on the tightly clamped resistance unit so that the wire will not be damaged or displaced under constant usage. The instrument is designed for panel mounting and is provided with binding posts to facilitate wiring.

Dubilier Micadon Types

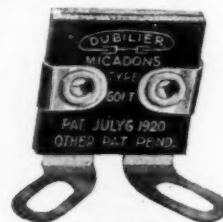
Dubilier Micadons have been placed upon the market by the Dubilier Condenser & Radio Corporation, 48 West Fourth Street, New York City, with the object of providing a cheap but durable condenser, bearing all the electrical features of the more elaborate Dubilier types. The dielectric used is India mica and the condenser element is clamped between two Bakelite sheets.

The capacity of the Micadon is invariable, and this is claimed to obviate circuit noises.

In a way it is possible to use the type 601 Micadons like building blocks. By placing a number of them together and passing a machine screw through them, it is possible



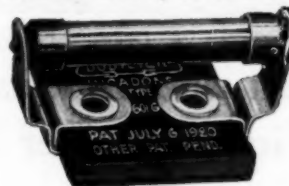
Type 601



Type 601T

to build up a condenser of practically any capacity within a very wide range. Supplied in capacities ranging from .0001 to .0025 mfd. Price, 35 and 40 cents.

The Micadon Type 601-T is the same as Type 601 with the exception that it is provided with adjustable clips which add greatly to its convenience in cases where it is desired to attach it to radio frequency transformers as a by-pass condenser. Price, 45 and 50 cents.



Type 601G



Type 601D

Type 601-G is provided with grid leak clips designed to fit standard grid leaks. Price 45 and 50 cents.

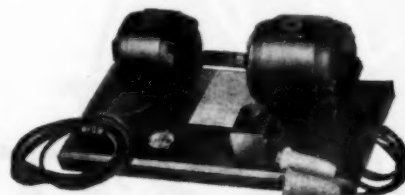
Type 601-D is provided with tabs to facilitate soldering. Price 45 and 50 cents.

New Battery Charging Equipment

Hundreds of thousands of 6 to 12 volt storage batteries are in the hands of the public and thousands are being sold daily to operate radio sets.

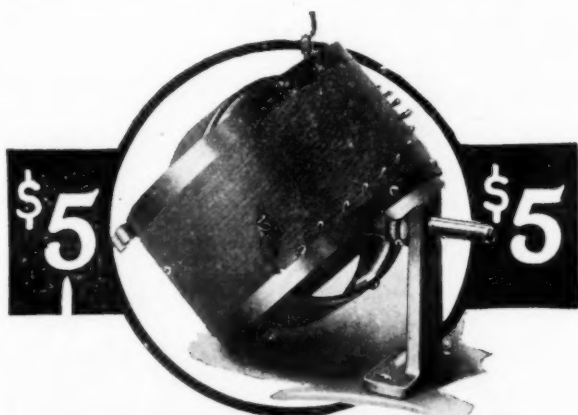
In many cases ample provision for automatic recharging is provided but where this is not true, as with all radio batteries, the problem of recharging must be considered, as it is usually inconvenient to carry heavy batteries to a charging station and even where this is possible it is expensive.

To meet this condition a type of charger has been developed by the Ohio Electric & Controller Company of Cleveland which it is claimed is comparatively silent, has ample capacity to charge at any desired rate, one to twenty amperes, will run with little attention, has practically no parts subject to breakage or deterioration, and will last a life time.

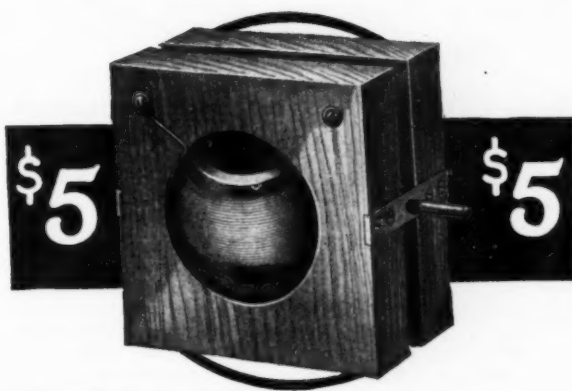


The motor and generator are connected by flexible coupling. There is an ammeter and rheostat to regulate the charging rate. The motor has ten feet of cord with attachment plug and the generator has six foot leads with convenient spring terminal clips.

QUEENS Vario Coupler



QUEENS Vario Meter



**WE SELL THESE GOODS
TO YOUR CUSTOMER**

But we need a place where he can secure them quickly.
Let us tell you how we do it.

Write for our proposition

QUEENS RADIO COMPANY, Inc.

12 FOREST STREET

WINFIELD, L. I.

JIFFY CLIPS



When it comes to the question of saving time, money and labor, we recommend the **JIFFY CLIP**.

To securely hold in place, Cable, Conduit or Pipe, it is only necessary to use one screw or bolt with each clip. Where space is limited, the Jiffy Clip is invaluable.

Your Jobber Has Them

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SWITCH BOARDS PANEL BOARDS FUSE REDUCERS

MADE BY MEN WHO KNOW YOUR
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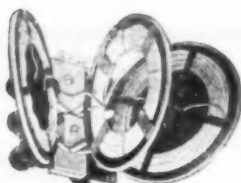
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PROMPT DELIVERIES

Tune in to results
with this new and
better device—the

Marco Tuner

TYPE 330-A



Body Capacity Practically Eliminated

As a Single or Double Circuit Tuner, this instrument is most useful, particularly for tuning simple, efficient regenerative sets.

As a Radio Frequency Transformer, it is the most generally satisfactory piece of apparatus on the market today, providing in itself an aerial tuning inductance and an intertube coupling impedance which is variable, compensating for changes in wave length or differences in inter-electrode tube capacities, allowing successful operation with any of the new low amperage tubes.

In the Flewelling Circuit, all the interesting phenomena of super-regeneration may be observed through the use of this device.

In Any Combination Requiring Small Inductances, this arrangement of coils will provide the necessary value for broadcasting reception, and will work well, with a pleasing lack of body capacity effect in adjustment.

Martin-Copeland Company

Providence, R. I.

Why Use Storage Batteries?

WHEN YOU CAN OBTAIN THE
SAME GOOD RESULTS WITH A

1 1/2 VOLT DRY CELL

The Ideal Socket



BRU No. 5—Pat. Pend.

The BRU No. 5—Moulded Bakelite Socket is designed to accommodate the WD-11 tube and it is unaffected by heat, weather and is unbreakable.

Springs are of Phosphor Bronze, and the special "cupped" design insures a firm contact so essential in Radio Work.

BRU NO. 5 SOCKET, 75 Cents

Write for good dealers discounts

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152 W. 14TH STREET,

NEW YORK

Battery Charging Attachment

A device for charging "B" batteries, to be used as an attachment to the Tungar Battery Charger, has been developed by the General Electric Company and recently placed on the market. The Tungar was devised for charging A batteries.



It consists of a small porcelain spool wound with resistance wire and enclosed in a small sheet metal box, which can be hung on the side of the Tungar. Two connection leads come from the resistance, one going to the Tungar and the other (the longer) to the positive pole of the B battery. It can be attached in a few seconds, and without the slightest difficulty. It will charge a 20-24-cell storage B battery at approximately .1 ampere, or 10-12 cells at approximately .2 ampere. It can be removed easily and quickly for charging the A battery.

Betts Visible Detector-Amplifier

A detector and two stage amplifier known as Type D2A has been developed by the Betts & Betts Corporation, New York City. It is built very compactly and is entirely visible.



The size is 5 x 10 inches and all conductors are extremely short to avoid capacity effects. The base is a solid block of Bakelite. There are separate controls for each tube and an improved potentiometer for fine tuning. It is complete and fully wired to connect into any circuit and embodies every essential to detection and two stage audio frequency amplification. It has a cutoff switch for the A battery.

TYPE "C"

Best Value on the Market

A line of "Circle T" externally operated switches.

FEATURES:

30-200 Amperes inclusive

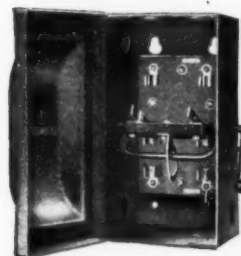
Heaviest, most carefully aligned and adjusted punched clip switches to be found. Placed in regular "Circle T" highly finished Armco Ingot Iron boxes, the same boxes as are used for our Type "A" line.

LIST PRICES ARE LOW

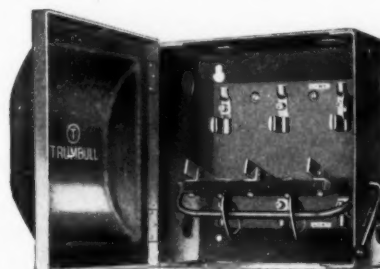
Discounts the same as on our regular safety switches.

The Best Buy on the Market Today

The new Type "C" has been going big ever since we first announced it. It will pay you to go along with us. Write today for full information.



FUSIBLE
250 V., 500 V., A. C.
2, 3, 4-Pole, Single Throw



NO FUSE
250 V., 500 V., A. C.
2, 3, 4-Pole, Single Throw

This line does not supersede our Type A line, used largely in industrial plants. The Type C series represents our addition to the Type A line. A further evidence of the completeness of Circle T service.



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Safety Switches



Pass & Seymour Sockets with Brown Keys have enjoyed the approval of conservative fixture studios for more than five years.

The charm of the brown key is its neutral tone and pleasing harmony with the majority of regular and special finishes.

The brown key sockets, while less expensive perhaps than those with the push button or chain pull movements, may also be employed on ceiling fixtures where certain lamps are used infrequently and the full illumination is required only for special functions.

A sample of the Brown Key Socket will convince you.

Pass & Seymour, Inc.

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